MEDICAL BOTANY:

CONTAINING

SYSTEMATIC AND GENERAL DESCRIPTIONS,

WITH

Plates of all the Medicinal Plants,

COMPREHENDED IN THE

CATALOGUES OF THE MATERIA MEDICA,

AS PUBLISHED BY THE

ROYAL COLLEGES OF PHYSICIANS OF LONDON, EDINBURGH, AND DUBLIN;

TOGETHER WITH THE PRINCIPAL MEDICINAL PLANTS NOT INCLUDED IN THOSE PHARMACOPŒIAS.

ACCOMPANIED WITH A CIRCUMSTANTIAL DETAIL OF THE MEDICINAL EFFECTS, AND OF THE DISEASES IN WHICH THEY HAVE BEEN MOST SUCCESSFULLY EMPLOYED.

BY

WILLIAM WOODVILLE, M.D. F.L.S.

THIRD EDITION,

IN WHICH THIRTY-NINE NEW PLANTS HAVE BEEN INTRODUCED.

THE BOTANICAL DESCRIPTIONS ARRANGED AND CORRECTED BY

DR. WILLIAM JACKSON HOOKER, F.R.S. L.S. &c.

Who has added an Index following the Arrangement of Jussieu.

THE NEW MEDICO-BOTANICAL PORTION SUPPLIED BY

G. SPRATT, ESQ. AUTHOR OF THE FLORA MEDICA,

Under whose immediate Inspection the whole of the Plates have been coloured.

IN FIVE VOLUMES.

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Clutia Eluteria s. Cascarilla.

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The Author takes this opportunity of observing, that all the figures which he has published, were taken either from dried or recent specimens, excepting in very few instances, where he was under the necessity of resorting to the plates of others; this, however, was never done but upon unquestionably good authorities.—And whenever future discoveries shall shew that he has been misled, he will not fail to acknowledge it: the only instance that has yet occured to him is the following of Cascarilla.

CLUTIA ELUTERIA. CASCARILLA CLUTIA.

SYNONYMA. Cascarilla. *Pharm. Lond. & Edinb.* Elutheria et Eluteria, Auctorum. Clutia *(Elutheria)* foliis cordato-lanceolatis. *Mill. Dict. Amœn. Acad.* vol. 5. p. 411. *Hort. Cliff.* 486. *Flor. Zeyl.* 366.

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant.* 1140.

Gen. Ch. *Masc. Cal.* 5-phyllus. *Cor.* 5-petala.
Fem. Cal. 5-phyllus. *Cor.* 5-petala. *Styli* 3. *Caps.* 3-locularis. *Sem.* 1.

Sp. Ch. C. foliis cordato-lanceolatis.

THIS small tree grows several feet in height, and sends off numerous branches, especially towards the top: the bark which covers the branches is brown and smooth, but that of the trunk is externally more white and rough: the leaves are entire, lanceolate, somewhat cordate, and elongated towards the apex, which is blunt, on the upper side of a bright green, on the under side paler, and placed alternately upon long footstalks. Both the male and

female flowers stand in spikes, and are composed of a calyx divided into five ovate leafits, enclosing an equal number of small whitish petals, and within these the nectaria are placed. The female flower produces a roundish germen, supporting three bifid spreading styles, terminated by obtuse stigmata: the capsule is globular, rough, marked with six furrows, and divided into three cells, containing a solitary oval shining seed.

The history of the Cascarilla Clutia will determine what was left doubtful in that of the Croton Cascarilla, which is figured on the authority of Linnæus;[a] though we then observed that it did not appear "sufficiently ascertained" whether or no it furnished the officinal Cascarilla. This point however we can now confidently decide in the negative.

Among other circumstances, which tended to involve the parental source of Cascarilla long in uncertainty, was the assertion of some authors,[b] that it was a native of the Spanish Main, and was thence imported into Europe; thus founding a presumption, that the Cascarilla and Elutheria Barks were different, and that the latter only was the produce of the Bahama Islands. But this assertion we have discovered to be contrary to fact; for, upon inquiry, we do not find that this drug was ever exported from Spanish America, but that the Bahamas have constantly supplied the European markets with Cascarilla bark, a parcel of which was sent here from one of those Islands, along with specimens of the tree producing it; of which the figure here given is a faithful representation, as may be seen by comparing it with the original in the herbarium of Sir Joseph Banks.

But it will be necessary to observe here, that Dr. Wright, in his account of the medicinal plants growing in Jamaica,[c] gives the name Croton Elutheria to a tree, the bark of which he says "is the

[a] The bark of this plant, according to Dr. Wright, has none of the sensible qualities of Cascarilla.

[b] See Boulduc. *Hist. de l'Ac. des Sc.* 1719. *p.* 14. Spielmann *M. M. p.* 249.

[c] *Med. Journ. vol.* 8. *p.* 3.

Siphonia elastica

Published by W. Phillips, Sept.r 3.d 1809.

same as the Cascarilla or Elutheria of the shops:" it seems therefore probable, that different species of Clutia may produce bark of the same, or of similar qualities to that of Cascarilla, as we find several instances in which the same drug is produced by various species of plants.

That the tree here called by Dr. Wright Croton does not belong to this genus, but it is evidently a Clutia, appears by the dioicous specimen of it sent by him to the President of the Royal Society; a part of which, with the male flowers, is delineated in the present plate, in order that the Jamaica and Bahama Cascarilla may be compared together; the former being distinguished by figure I.

The Clutia Eluteria seems to have been first introduced into Britain by Mr. P. Miller; but it is not to be found in the King's garden at Kew, nor have we seen it cultivated any where near the Metropolis. According to a late German author,[d] it grows abundantly in the Bahama Islands, where the bark, which forms a principal export, is sold at the very low rate of 10*s.* 6*d.* ♆ ♁.

Respecting the medical history, qualities, and uses of Cascarilla bark, we have nothing to add to what is given in the preceding article.

[d] Vide J. D. Schæpf. *Reise durch einige der mittlern und fudlichen vereinigten eordameritanischen staaten nac ost-Florida undden Bahama Inseln.*

SIPHONIA ELASTICA. INDIA RUBBER; Or ELASTIC RESIN TREE.

SYNONYMA. Hevea guianensis. *Aublet. Histore des plantes de la Guiane Françoise. tom.* 2. *p.* 871. *tab.* 335. Caoutchouc. *Richard, in Rozier obs. sur la physique. tom.* 27. *p.* 138. *t.* 2. Jatropa elastica. *Supp. Plant.* The Figure by Fresnau in Mem. de L'Acad. des Scien. a. 175. t. 20. is erroneous.

Monoecia Monadelphia. *Schr. Gen. Plant.* 1465.

Gen. Ch. *Masc. Cor.* 0. *Cal.* globoso-campanulatus, semiquinquefidus. *Filament.* colum. *Antheræ.* 5, adnatæ.

Fem. Cor. 0. *Cal.* 5-fidus, patens, solitarius, racemum terminans. *Stylus* 0. *Stigmata* 3. *Caps.* 3-locularis, lignosa, durissima.

Sp. Ch. S. foliis ternatis ellipticis integerrimis subtus canis longe petiolatis. Supp. Plant.

A LARGE straight tree, growing to the height of fifty or sixty feet; at the upper part sending off numerous branches, covered with rough bark. Leaves on long footstalks, ternate, elliptical, somewhat pointed, entire, veined, smooth, on the under side whitish. Flowers male and female on the same tree, small, in dividing racemi at the ends of the branches. *Male flowers* numerous: calyx globoso-campanulate, five-cleft, segments erect, pointed. Corolla none. Filaments in a column, shorter than the calyx. Antheræ five, united. *Female flower* solitary, larger than the male, and placed at the extremity of the racemus: calyx bell-shaped, cut into five teeth, which are acute, patent, or recurved, deciduous. Germen roundish, shorter than the calyx. Style none. Stigmata three, depressed. Capsule large, three-parted, woody, very hard, covered with fibrous bark, three-celled, valves opening. Seeds ovate, spotted.

This tree is a native of South America, growing abundantly in the woods of Guiana, in the Province of Quito, and along the borders of the River Amazons, in the kingdom of Mexico.

The younger Linnæus admitted this tree into the *Supp. Plant.* under the genus Jatropa, to which its fruit seemed to bear a greater affinity than to that of any other; but by the diligence of Richard[a] its characters have been found sufficiently different to constitute a new genus, which Schreber calls Siphonia. This we have therefore adopted, still preserving the specific name elastica.

[a] Vide *Rozier obs. sur la physique. tom.* 27.

The substance, known by the names India rubber, elastic gum, Cayenne resin, cautchuc, and by the French caoutchouc, is prepared from the juice of this tree: as subservient to several medical or chirurgical purposes, it comes within the scope of this work, and must therefore prove sufficiently interesting to the medical reader.

This singular substance was little known in Europe till long after the commencement of the last century; and its origin and composition was first learned from M. de la Condamine,[b] who by travelling into the interior parts of South America had an opportunity of acquiring the necessary information. This active and enterprizing member of the French Academy found that the Caoutchouc was formed from the juice of a large tree, which has since been botanically examined and ascertained to be that here represented.[c]

The manner of obtaining this juice is by making incisions through the bark of the lower part of the trunk of the tree, from which the fluid resin issues in great abundance, appearing of a milky whiteness as it flows into the vessel placed to receive it, and into which it is conducted by means of a tube or leaf fixed in the incision, and supported with clay. On exposure to the air this milky juice, according to Aublet, gradually inspissates into a soft reddish elastic resin; but M. de la Borde, and some others, assert that the juice undergoes a certain preparation before its inspissation, which is effected by a peculiar process, which the Indians keep a profound secret.[d] To suit the different purposes for which it is employed in South America, the Caoutchouc is shaped into various forms;[e] but it is commonly brought to Europe in that of

[b] *Relation d'un voyage dans l'interieur de l'Amerique meridionale, in Mem. de l'Acad.* 1751. *p.* 322.

[c] It was taken from a very complete specimen in the possession of Sir Joseph Banks. We must remark however, that some other vegetable juices admit of being formed into a species of caoutchouc, of which Fresnau has given an account. *L. c. p.* 324. [d] Vide *Rozier. obs. et mem. sur la physique. tom.* 1. *p.* 464.

[e] The curious diversity of figures in which this substance was sold in Portugal is noticed by Mr. Twiss. See *Travels through Portugal and Spain.* 323.

pear-shaped bottles, which are said to be formed by spreading the juice of the Siphonia over a proper mould of clay, and as soon as one layer is dry another is added till the bottle be of the thickness desired. It is then exposed to a dense smoke, or to a fire, until it becomes so dry as not to stick to the fingers, when by means of certain instruments of iron or wood it is ornamented on the outside with various figures. This being done it remains only to pick out the mould, which is easily effected, on being first softened with water.

The substance, thus manufactured, is so well known as to render any particular description of it unnecessary. It may be subjected to the action of some of the most powerful menstrua without suffering the least change, while its pliability and elasticity are eminently peculiar to itself. It is true that the lactescent juice of several vegetables may be converted into a substance resembling the Caoutchouc, but no art has yet been discovered to give it the same properties.

The Chinese elastic resin is said to be prepared of castor oil and lime;[f] or, according to Retzius, it is nothing but a certain expressed oil evaporated by heat:[g] hence its easy solubility.

With a view to investigate the interesting nature of the Caoutchouc, and to render it of more general utility, several able chemists have been diligently employed, especially Macquer,[h] Achard,[i] Juliaans,[k] and Berniard,[l] from whom its chemical history is to be learned: our duty however is to state only some of the principal facts.

Though it appears that neither water nor alcohol, aided by all the heat capable of being produced in Papin's digester, could dissolve this substance, yet its solution was effected not only by

[f] V. Faujas de Saint-Fond *Suite de la description des experiences aërostatiques tom. 2. p.* 258.

[g] *Pharm. reg. veg. p.* 60. [h] *Mem. de l'Acad. des Sc. de Paris, pour* 1768.

[i] *Chymisch phys. Schriften cap. De resina elastica.*

[k] *Diss. de Resina elastica Cayennensi.* [l] See *Rozier Obs. sur la Physique. tom.* 17.

the concentrated mineral acids, but in a considerable degree even by most of the unctuous, distilled, and empyreumatic oils. However, as it was found that the solutions of this inspissated juice by these menstrua irrecoverably lost their elasticity, and became useless, the great desideratum of re-forming the Caoutchouc was not attained till ether was employed as its solvent; which was first done by Macquer, who for this purpose found it necessary to use the vitriolic ether in a highly rectified state.

The Caoutchouc, cut into small pieces, and put into a proper vessel with as much of the ether as was sufficient to cover it, was completely dissolved without the application of heat. This solution, which was transparent, and of an amber colour, on being thrown into water, did not produce a milky liquor; but there arose to the surface a solid membrane, possessing the elasticity and other properties of the Caoutchouc. This experiment was also executed with success by Theden;[m] therefore those with whom it failed must have used ether in a less concentrated state. According to Theden one dram of the Caoutchouc requires for its perfect solution an ounce of ether. Nitrous ether dissolves but a small proportion of the Caoutchouc, and at the same time destroys its elastic power.

It has been asserted that the elastic resin not only dissolves in oil of guaiacum by digestion, but that on evaporating the oil, the resin in a little time recovers its elastic property. By the industry of Achard, who made this discovery, we likewise learn that solutions of this substance, made by the etherial oils, may be decomposed by the addition of spirit of wine, when the Caoutchouc separates from the oil in the form of mucilage, and on being sufficiently exposed to the air, is restored to its former firmness and elasticity.

However Juliaans, who attempted this process, was unable to re-produce a substance possessing the characters of the elastic resin: it is therefore to be feared that this method, which seemed

[m] *N. Bemerk. a. d. Wundarzneyk. P. 2. p. 152.*

to promise an easy and cheap way of forming various instruments of the Caoutchouc, has been prematurely recommended: nor does this method of softening the elastic resin with the animal oil of Dippelius, or with oil of turpentine, as proposed by Herissant, for the purpose of forming it into probes, &c. produce the effect desired. It appears therefore that Macquer's process of dissolving this substance in ether, by which he was enabled to give a coat of Caoutchouc of considerable thickness to a cylindrical mould of wax, is the best way yet discovered of adapting this substance to surgical and other purposes: for on immersing the waxen mould, thus covered with the elastic resin, in boiling water, the wax soon melts and rises to the surface, leaving behind a regular tube of Caoutchouc. In order to render the tubes of sufficient firmness to be used as catheters, it has been recommended that gold or silver wire, rolled in a close spiral manner, should be coated with the elastic resin, and these, as possessing both pliability and firmness, are said to succeed very well. Various other methods of forming catheters, bougies, pessaries, trusses, &c. of this substance, are to be found in the Journal de Medicine,[n] especially by Durand and Juville; and by its remarkable flexibility and elasticity it accommodates itself to the motion of the body, and thereby possesses peculiar advantages. For a syringe, or injecting machine, the common form in which it is brought here is exceedingly well adapted, and only requires that a proper pipe be fixed to the neck of the elastic bottle to render it fit for use, which is now well known.

We are told that in Quito one of these bottles, fastened to a hollow reed, and filled with water, is always presented at entertainments to each of the guests, who use it as an injection before eating.

The Indians make boots of the Caoutchouc; also a kind of cloth which they use for the same purposes as we use oil cloth. Flambeaux are likewise made of this resin, which yield a beautiful light without any disagreeable smell. In this country it is much used for rubbing out black-lead pencil marks.

[n] See *tom.* 60. & 62.

Thea

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THEA. TEA-TREE.

SYNONYMA. Thea. *Pharm. V. Dale, Geoffroy, Alston, Lewis, Ed. New Dispens. Bergius, Murray, Cullen, &c.* Chaa. *Bauh. Pin.* The Sinensium seu Tsia Japonensibus. *Breyn. Exot. Plant.* Tsja, Thea frutex folio Cerasi flore Rosæ sylvestris. *Kämpfer. Amœn. exot.* Le Thee. *Fougeroux de Bondaroi* in *Rozier, Obs. et Mem. sur la Physique. tom.* 1. *f.* 1. See *Lettsom's Natural History of the Tea-Tree.*

Polyandria Monogynia. *Lin. Gen. Plant.* 668.

Gen. Ch. Cor. 6-s. 9-petala. *Cal.* 5-s. 6-phyllus. *Caps.* 3-cocca.

Sp. Ch. α *(Bohea)* foliis elliptico-oblongis rugosis.

Broad-leav'd Tea.

β foliis lanceolatis planis.

Narrow-leav'd Tea.

Aiton. Hort. Kew.

A SMALL evergreen or shrub, much branched, and covered with a rough dark grey bark. Leaves elliptical, or lanceolate, entire, alternate, obtusely serrated, veined, placed on short foot-stalks. Calyx small, smooth, persistent, divided into five obtuse segments. Flowers white, often two or three together, on separate peduncles, placed at the axillæ of the leaves. Corolla varying in the number and size of its petals, but commonly six, of an irregular roundish form. Filaments very numerous, short, inserted at the base of the corolla. Antheræ large, yellow. Germen roundish, or rather triangular. Style trifid, spreading at the top, and furnished with simple stigmata. Capsule three-celled, opening. Seeds three, oblong, brown.

This shrub is a native of China and Japan, and (according to Mr. Aiton) was first introduced into this country in 1768 by John Ellis, Esq. who raised it from seed, and presented it to the King's gardener at Kew. But we are told that the Tea-plant which first flowered in Europe, belonged to his Grace the Duke of Northumberland, at Sion-house.

All the various kinds of Tea imported here come under the denomination of Bohea and Green, and even these are supposed to be the produce of the same species of the plant. Linnæus however has described them as specifically different, founding the distinction in the number of their petals. Others have also observed, that the leaves of Tea plants differ considerably both in form and colour, and this difference we have frequently noticed in the Tea growing in the vicinity of London; but whether these which the gardeners sell by the name of Bohea and Green Tea plants are to be regarded as permanent varieties, or distinct species, we have not the means to decide. De Loureiro[a] has described three species of Thea, viz. Thea cochinchinensis, Thea cantonensis, and Thea oleosa. The first is a native of Cochin-China, where it is also cultivated, and used medicinally in hot weather as a sudorific and refrigerant. The Thea oleosa grows wild in the neighbourhood of Canton, where an oil obtained from its seed is used for various domestic purposes. The Thea cantonensis, which Loureiro carefully examined in its native soil, was found to bear a close resemblance to another variety called *Siaò chong châ*, and by the Europeans Souchong. Both these are brown, but more fragrant and valuable than the common green Tea, which grows in the province of *Fo kien*. Notwithstanding that this author has described the three species of Thea above mentioned, he says that on examining the dried flowers of the green Tea, brought from the province of Kiang si, he observed a great diversity in the number of the parts of the calyx and corolla: hence he concludes that all the various Chinese Teas are taken from the same botanical species,

[a] Flor. Cochinchinesis.

and that the different flavour and appearance of Teas depend upon the nature of the soil, the culture, and method of preparing the leaves.

This opinion, which is founded on the sportive tendency of the flowers of the Tea plant, clearly shows the fallacy of distinguishing the bohea and green Tea trees by the number of their petals, which even in this country have been found to vary from three to nine; yet this circumstance, though it proves the insufficiency of the Linnean characters, by no means determines the botanical identity of the green and bohea Teas; and while the present narrow and jealous policy of the Chinese continues, many interesting particulars respecting the natural history of Tea must still remain unknown to Europeans: hence I have thought myself unauthorized to add a specific name to the plate of the Tea plant here annexed, * which represents the variety β in the *Hort. Kew.* or the Thea viridis of the London gardeners.

The various Teas imported into Europe are obtained both from the wild and cultivated plant. The manner of gathering and preparing the leaves, as practiced in Japan, is very fully described by Kæmpfer, and is, as far as our information extends, conformable to the method used by the Chinese.

The first gathering of the Tea leaves, according to this author, commences about the latter end of February, when the leaves are young and unexpanded. The second collection is made about the beginning of April, and the third in June. The first collection, which consists only of the fine tender leaves, is most esteemed, and is called Imperial Tea. The second is called Tootsjaa, or Chinese Tea, because it is infused and drunk after the Chinese manner. The last, which is the coarsest and cheapest, is chiefly consumed by the lower class of people. Besides the three kinds of Tea here noticed, it may be observed, that by garbling or sorting these, the varieties of Tea become still farther multiplied. As many Tea plants grow on cliffs and places of difficult access, the Chinese

* Taken from the plant now in flower in the stove of John Liptrap, Esq.

Tea gatherers are said† to have occasional recourse to the assistance of monkies, which are chased up the Tea trees, and so much irritated that in their fury they bite off the branches, and throw them down in resentment: the branches are then taken up, and the leaves picked off. The leaves are not collected from the cultivated plant till it is three years old; and after growing seven or ten years it is cut down, in order that the numerous young shoots may afford a greater supply of leaves.

The leaves should be dried as soon as possible after they are collected; and for this purpose Kæmpfer relates, that public buildings are erected, containing from five to ten and even twenty small furnaces about three feet high, each having at the top a large iron pan. There is also a long table covered with mats, on which the leaves are laid and rolled by workmen who sit round it. The iron pan being heated to a certain degree, by a fire made in the furnace beneath, a few pounds of the leaves are put upon the pan, and continually turned and shifted by the hands till they become too hot to be endured; they are then thrown upon the mats to be rolled, which is done between the palms of the hands, after which they are cooled as speedily as possible.

In order that all the moisture of the leaves may be completely dissipated, and their twisted form be better preserved, the above process is repeated several times with the same leaves, but less heat is employed than at first. The Tea thus manufactured is afterwards sorted according to its kinds or goodness. Some of the young tender leaves are never rolled, and are immersed in hot water before they are dried.

From this account of the Japanese method of curing their Teas it appears, that a prompt and complete exsiccation is the chief art employed. We suspect however, that the Chinese are more indebted to art than to nature for the various kinds of Tea with which they supply this country. Many of their Teas are so widely different in taste, odour, colour, and form, that instead of appear-

† See *Lettsom. l. c.*

ing to be the leaves of the same species of plant, they are so much disguised as scarcely to manifest any resemblance to each other. It is true that some species and varieties of the Tea, as appears by Loureiro, are naturally more odorous than others; yet we cannot suppose that nature ever made them totally different. The same observation will be equally applicable to the various flavours and colours of this exotic. We may therefore infer, that the Chinese method of curing their fine Teas is not quite so *simple* as that practised by the Japanese.

Tea was first introduced into Europe by the Dutch East India Company, and into England about the year 1666, when it sold for sixty shillings ℔ ℔, and for many years its great price limited its use only to the most opulent. However, for a long time past it has been the common beverage of both the rich and poor; and its effects have been very variously represented; but as to enter fully upon this subject would far exceed the limits of this work, I shall refer the reader for a more full account to Dr. Lettsom's elaborate history of the Tea tree; and conclude this article with a transcript of its medicinal powers, as given by Dr. Cullen, whose opinion in this place cannot fail to be well received.

" With respect to its qualities as a medicine, that is, its power " of changing the state of the human body, we might suppose it " ascertained by the experience of its daily use; but from the " universality of this use in very different conditions of the plant, " and in every possible condition of the persons employing it, " the conclusions drawn from its effects must be very precarious " and ambiguous, and we must attempt by other means to " ascertain its qualities with more certainty.

" To this purpose it appears, from the accurate Dr. Smith's " experiments *De Actione Musculari*, No. 36, that an infusion of " green Tea has the effect of destroying the sensibility of the " nerves, and the irritability of the muscles; and from the expe- " riments of Dr. Lettsom, it appears that green Tea gives out in " distillation an odorous water, which is powerfully narcotic.

" That the recent plant contains such an odorous narcotic " power, we might presume from the necessity which the Chinese " find of drying it with much heat before it can be brought into " use; and that, even after such preparation, they must abstain " from the use of it for a year or more, that is, till its volatile " parts are still farther dissipated: and it is said, that unless they " use this precaution, the Tea in a more recent state manifestly " shows strong narcotic powers. Even in this country, the more " odorous Teas often show their sedative powers in weakening the " nerves of the stomach, and indeed of the whole system.

" From these considerations we conclude very firmly, that Tea " is to be considered as a narcotic and sedative substance; and that " it is especially such in its most odorous state, and therefore less " in the bohea than in the green Tea, and the most so in the more " odorous, or what are called the finer kinds of the latter.

" Its effects, however, seem to be very different in different " persons; and hence the different, and even contradictory ac- " counts that are reported of these effects. But if we consider " the difference of constitution, which occasions some difference " of the operation of the same medicine in different persons, and " of which we have a remarkable proof in the operation of opium, " we shall not be surprised at the different operations of Tea.

" If to this we add the fallacy arising from the condition of the " Tea employed, which is often so inert as to have no effects at " all; and if we still add to this the power of habit, which can " destroy the powers of the most powerful substances, we shall " not allow the various and even contradictory reports of its " effects to alter our judgment, with respect to its ordinary and " more general qualities in affecting the human body.

" These, from the experiments above mentioned, and from the " observations which I have made in the course of fifty years, in " all sorts of persons, I am convinced that the qualities of Tea are " narcotic and sedative.

Winteria aromatica

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" It has been often alleged, that some of the bad effects imputed " to Tea are truly owing to the large quantity of warm water " which commonly accompanies it; and it is possible that some " bad effects may arise from this cause: but from attentive obser- " vation I can assert, that wherever any considerable effects " appear, they are in nine of every ten persons entirely from the " qualities of the Tea; and that any like effects of warm water do " not appear in one of a hundred who take in this very largely.

" But while we thus endeavour to establish the poisonous nature " of Tea, we do not at the same time deny that it may sometimes " show useful qualities. It is very possible, that in certain persons, " taken in moderate quantity, it may, like other narcotics in a " moderate dose, prove exhilirating, or, like these, have some " effect in taking off irritability, or in quieting some irregularities " of the nervous system.

" As its bad effects have been often imputed to the warm water " that accompanies it, so we have no doubt that some of its good " effects may also be ascribed to the same cause, and particularly " its being so often grateful after a full meal."[a]

[a] *Mat. Med. vol.* 2. *p.* 309.

WINTERA AROMATICA. WINTER's BARK TREE.

SYNONYMA. Winterana aromatica. *Solander* in *Med. Observations & Inquiries, vol.* 5. *p.* 41. *t.* 1. Drimys Winteri pedunculis aggregatis terminalibus. *Forster* in *Nov. Act. Upsal. vol.* 3. *p.* 181. Laurifolia magelliana, cortice acri. *Bauh. Pin.* Periclymenum rectum foliis laurinis cortice acri aromatico. *Sloane* in *Phil. Trans. vol.* 17. *p.* 923. *iab.* 1. *f.* 1. 2.

Winteranus cortex. *Pharm. Edinb.*

Polyandria Tetragynia. *Schreb. Gen. Plant.* 929.

Gen. Ch. *Cal.* 3-lobus. *Petala* 6. s. 12. *Germina* clavata. *Stylus* 0. *Bacca* clavata.

Sp. Ch. W. pedunculis aggregatis terminalibus, pistillis quatuor.

THIS very large tree often rises to the height of fifty feet. The bark of the trunk is grey, and somewhat wrinkled, but that on the branches is green and smooth. Leaves oval, or elliptical, entire, obtuse, flat, smooth, shining, evergreen, of a pale bluish colour underneath, and placed irregularly upon thick footstalks. Flowers white, placed on long peduncles, which proceed from the alæ of the leaves at the tops of the branches. Bracteæ oblong, entire, concave, pointed, whitish, placed at the base of the peduncles. Calyx of one leaf, firm, dividing into three irregular pointed lobes. Corolla of seven petals, which are unequal, oval, obtuse, concave, erect, white. Filaments numerous, (from 15 to 30) much shorter than the petals. Antheræ large, oval, divided longitudinaily. Germina from three to six, turbinated. Styles none. Stigmata divided, flat. Capsules fleshy, containing four triangular seeds.

It is a native of the Streights of Magellan and Terra del Fuego.

Dr. Solander relates that "the tree which produces the Winter's "Bark was utterly unknown to the Europeans till the return of "Captain John Winter, who, in the year 1577, sailed with Sir "Francis Drake, as commander of a ship called the Elizabeth, "destined for the South Seas; but immediately after they had "got through the Streights of Magellan, Captain Winter, on the "8th of October, was obliged, by stress of weather, to part com-"pany, and to go back again into the Streights, from whence he "returned into England in June 1579, and brought with him "several pieces of this aromatic bark, which Clusius called after "him Cortex Winteranus. Several authors have mentioned it "since in their botanical works; but all they have said has been

" copied from Clusius. No more was heard of this bark till the " Dutch Fleet, under Admiral Van Nort, returned from the " Streights of Magellan, in the year 1600. Afterwards all the " navigators who passed through the Streights of Magellan took " notice of the tree, on account of the usefulness of its bark: " but none furnished any description that could make it bo- " tanically known before Mr. George Handasyd came back from " the Streights of Magellan in 1691, and brought with him some " dried specimens, which he gave to Sir Hans Sloane, and are now " preserved in the British Museum. From these specimens, and " the account Mr. Handasyd gave of this tree, Sir Hans Sloane " drew up a history, and gave a figure in the Philosophical " Transactions. Still the systematical botanists could not give it " a place in their catalogues, being unacquainted with its flowers " and fruit." However this loss was supplied by the industry of Mr. Wallis, Captain of the Dolphin, who returned from the South Seas in 1768, bringing with him several botanical specimens of the Winter's Bark Tree, one of which came into the possession of Dr. John Fothergill, who caused an engraving of it to be made by Ehret, which is published, together with its botanical description written by Dr. Solander, in the fifth volume of the *Medical Observations and Inquiries.* From the plate here alluded to, the annexed figure is taken.

Though Winter's Bark has been very generally confounded with the canella alba, yet they are well known to be totally different.

Winter's Bark is of a dark brown cinnamon colour, with an aromatic smell when rubbed, and of a pungent hot spicy taste, which is lasting on the palate, though imparted slowly.

The bark has been thought to be a useful antiscorbutic; but in this character it seems to possess no advantage over the other pungent aromatics, and is now generally superseded by the canella alba.

In natural order the Wintera has been ranked with the oleraceæ, but to this class it seems to have very little affinity.

ORD. XL. OLERACEÆ.

From *Olus*, Plants for food, pot-herbs.

SALSOLA KALI. PRICKLY SALT-WORT.

SYNONYMA. Kali spinosum cochleatum. *Bauh. Pin. p.* 289. Tragus sive Tragum Matthioli. *Park. Theat, p.* 1034. *Gerard Emac. p.* 1117. *Raii Hist. p.* 212. *Synop. p.* 159. *Moris Hist. 5. f.* 33. *f.* 11. Salsola Kali. *Huds. Ang. p.* 93. *Lightf. Scot. p.* 151. *Withering Bot. Arrang. p.* 257. *Flor. Dan. p.* 818.

Barilla, Natron, *Pharm. Lond.* Sal alkalinus fixus fossilis, *Pharm. Ed.* vulgo sal sodæ ex herba kali usta.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 311.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Cor.* 0. *Caps.* 1-sperma. *Sem.* cochleatum.

Sp. Ch. S. herbacea decumbens, foliis subulatis spinosis scabris, calycibus marginatis axillaribus.

THE root is annual: the stem is angular, branched, smooth, decumbent, and rises about a foot in height: the leaves are long, narrow, awl-shaped, prickly, stand in ternaries upon the branches, and like the stem are frequently of a reddish hue: the flowers are sessile, axillary, whitish, yellowish, or of a rose colour: the calyx

Salsola Kali

Published by W. Phillips, Oct 1st 1809.

is membranous, and consists of five obtuse indented segments, each of which is furnished with a small tooth-like process at its base: it has no corolla, unless the calyx be considered as such: the five filaments are short, slender, inserted into the divisions of the calyx, and crowned with simple antheræ: the germen is globular, and supports two styles with recurved stigmata: the capsule is oval, one-celled, involved in the calyx, and contains a large spiral seed formed like a snail-shell. It is a native of Britain, and common on the sea shore, flowering in July and August.

The annexed figure of the Kali is taken from a specimen which grew in the Royal Garden at Kew, and therefore has more luxuriancy and beauty than it ever assumes in its wild state, where its humble appearance might justify the epithet Sea-weed, so contemptuously spoken of by the Latin Poet, "projecta vilior alga." Not only this, but various other plants, on being burned, are found to afford the fossile alkali, and some in a greater proportion than the Kali,[a] consequently have an equal if not a superior claim to a place in this work.

These are Salsola sativa, *Lin.* Salsola Souda, *Lofling.*[b] Kali hispanicum supinum annuum Sedi foliis brevibus, s. Kali d'Alicante, *Jussieu.*[c] It grows abundantly on that part of the Spanish coast which is washed by the Mediterranean Sea. This species is deservedly first enumerated by Professor Murray, as it supplies all the best Soda consumed in Europe, which by us is called Spanish or Alicant Soda, and by the Spanish merchants *Barrilla de Alicante.*

Salsola Soda, *Lin.* Kali majus, cochleato semine. *Bauh. Pin.* Le Salicor, *Marcorelle.*[d] *Jacquin Hort. Vind. tab.* 68. This spe-

[a] Why the name Kali is adopted in the London Pharmacopœia for the fixed vegetable alkali, we are unable to devise.

[b] *Spanska Resa, p.* 132.

[c] *Mem. de l'Acad. de Sc. de Paris,* 1717. *p.* 73. *sqq. tab.* 2.

[d] *Mem. pres. à l'Acad. &c. tom.* 5. *p.* 531.

cies, which grows on the French Mediterranean coast, is much used in Languedoc for the preparation of this salt, which is usually exported to Sicily and Italy.

Salsola Tragus, *Lin.* affords an ordinary kind of Soda, with which the French frequently mix that made in Languedoc: this adulteration is also practised by the Sicilians, who distinguish the plant by the term selvaggia.[e]

Salicornia herbacea, *Lin. Flor. Dan. tab.* 303. Conf. *Baster, Opusc. subsec. tom. 2. p.* 107. *Pallas, Reise durch Russ. Reich. tom. i. p.* 479. Is common in salt marshes, and on the sea shore all over Europe. Linnæus prefers the Soda obtained from this plant to that of all the others;[f] but though the quantity of fossile alkali which it yields is very considerable, as a great portion of it is united with muriatic acid, it is mixed with much common salt.

Salicornia arabica, *Lin.* Mesembryanthemum nodiflorum, *Lin.* Plantago squarrosa, *Lin.* All these, according to Alpinus, afford this alkali. It has also been procured from several of the Fuci, especially F. vesiculosus, and distinguished here by the name Kelp.† Various other marine plants might also be noticed as yielding Barilla or Soda by combustion;‡ but the principal are confined to the genus Salsola and that of Salicornia. The Salsola Kali, on the authority of Rauwolf, is the species from which the salt is usually obtained in eastern countries.[g]

[e] Gronov. *Fl. orient. Rauwolfii, p.* 29.

[f] Nostratibus nulla aptior in hunc usum planta, quam dicta, *Mat. Med. p.* 36.

† The preparation of this is fully described by Borlase. See *Observations on the State of the Islands of Scilly, p.* 118.

‡ To these we may add Batis maritima, (Vide *Jacquin Hist. Stirp. Amer. p.* 127.) which on the coast of Carthagena is found to have a very salt taste, where it is prepared into soda, which is used for the purpose of making glass. The Carthaginians call this plant *barilla.*

[g] Alp. *Pl. Ægypt.*

It is to be regretted, that the different kinds of Soda which are brought to European markets, have not been sufficiently analysed to enable us to ascertain with tolerable certainty the respective value of each; and indeed while the practice of adulterating this salt continues, any attempts of this kind are likely to prove fruitless: the best information on this subject is to be had from Jussieu,[h] Marcorelle,[i] Cadet,[k] Borlase,[l] and Sestini.[m] In those places where the preparation of Soda forms a considerable branch of commerce, as on the coast of the Mediterranean, seeds of the Salsola are regularly sown in a proper situation near the sea,[n] which usually shoot above ground in the course of a fortnight. About the time the seeds become ripe, the plants are pulled up by the roots, and exposed in a suitable place to dry, where their seeds are collected: this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are then while hot continually stirred with long poles. The saline matter, on becoming cold, forms a hard solid mass, which is afterwards broken in pieces of a convenient size for exportation.

According to chemical analysis Soda generally contains a portion of vegetable alkali and neutral salts, as common salt, and sometimes vitriolated tartar, or Glauber salt, likewise liver of sulphur, and not unfrequently some portion of iron is contained in the mass; it is therefore to be considered as more or less a compound, and its goodness is to be estimated accordingly. The Spanish Soda, of the best sort, is in dark coloured masses, of a bluish tinge, very

[h] *L. c.*

[i] *L. c.* [k] Vide *Mem. de l'Acad. &c.* 1767. *p.* 387.

[l] *L. c.*

[m] *Lettre della Sicilia, tom.* 3. *p.* 58. 76.

[n] According to the experiments of Du Hamel, the further from the sea the seeds are sown, the less fossil alkali, and the more vegetable alkali the plants contain. Vide *Med. de l'Acad.* 1767. *p.* 233.

ponderous, sonorous, dry to the touch, and externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French Soda is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The Soda, which is mixed with small stones, which gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind.*

The method of purifying this salt is directed in the London Pharm. under the article of Natron præparatum, and in the Edinburgh Pharm. under that of Sal alkalinus fixus fossilis purificatus: the pure crystals, thus formed of Alicant barilla, are colourless, transparent, lamellated, of a rhomboidal figure, and one hundred parts are found to contain twenty of alkali, sixteen of aerial acid, and sixty-four of water;° but upon keeping the crystals for a length of time, if the air be not excluded, the water evaporates, and they assume the form of a white powder. According to Imlin,[P] one ounce of water, at the temperature 62 of Fahr. dissolves five drams and fifteen grains of the crystals.‡ The same author also found that this salt preserved flesh from putridity longer than common salt, though not so long as the vegetable alkali. Natron has been thought useful in scrophulous disorders, but it is seldom given in its simple state.

In combination with vitriolic acid this alkali forms Glauber salt, or Natron vitriolatum; with nitrous acid, cubic nitre; with marine acid, common salt; with the sedative salt of Homberg, borax; with cream of tartar, Rochelle salt, or sel saignette.

To enter fully on the peculiar properties, or chemical qualities, of this alkali, would lead us too far, and is properly the province

* For this, and almost the whole on this subject, we are obliged to the late Professor Murray. See his *App. Med. vol.* 4.

° *Bergman in Scheffers.* P *Diss. de Soda.* §. 2.

‡ Kirwan says, 2, 5 times its weight of water at this temperature are required. *Min. p.* 176.

of chemistry. It is in common use in the manufacture of glass and soap, and as the latter is an artical of the Materia Medica, we shall proceed to consider its medicinal effects.

All the Soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline laxivia.[q] The Sapo ex oleo olivæ et natro confectus of the London Pharm. or the Sapo albus hispanus of the Edinb. Pharm. (white Spanish soap) being made of the finer kinds of olive oil, is the best, and therefore preferred for internal use.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and ashes, and as an invention of the Galls.[r] Aretæus, and others, inform us, that the Greeks obtained their knowledge of its medical use from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its use recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius,[s] and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the primæ viæ.[t] The utility of this medicine, in icterical cases, was inferred chiefly from its supposed power of dissolving biliary concretions, but this medicine has lost much of its reputation in jaundice, since it is now known that gall stones have been found in many, after death, who had been daily taking soap for several months and even years.[u] Of its good effects in urinary calculous affections, we have the testimonies of several,

[q] The acid soap of Cornette. *Mem. de la Soc. de Med. de Paris*, *t.* 3. *p.* 189. is so little known as scarcely to be considered an exception.

[r] *Lib.* 28. *c.* 12.

[s] *Oper. Med. lib.* 1. *cap.* 46.

[t] Heberden, *Med. Trans. vol.* 2. *p.* 166.

[u] Dr. Heberden, *l. c. Phil. Trans. vol.* 47. *p.* 472. *Whytt's Works*, *p.* 433. *sqq.* Bergius, *Vet. Acad. Handl.* 1777. *p.* 309.

especially when dissolved in lime water, by which its efficacy is considerably increased; for it thus becomes a powerful solvent of mucus, which an ingenious modern author supposes to be the chief agent in the formation of calculi: it is however only in the incipient state of the disease that these remedies promise effectual benefit; though they generally abate the more violent symptoms where they cannot remove the cause. With Boerhaave, soap was a general medicine: for as he attributed most complaints to viscidity of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different resinous and other substances, in gout, rheumatism, and various visceral complaints. Soap is also externally employed as a resolvent, and gives name to several officinal preparations.

CHENOPODIUM VULVARIA. STINKING GOOSE-FOOT, Or, ORACHE.

SYNONYMA. Atriplex fœtida. *Pharm. Edinb.* *Bauh. Pin. p.* 119. Atriplex olida. *Gerard. Emac. p. 327.* *Raii Hist. p.* 198. Blitum fœtidum Vulvaria dictum. *Raii Synop, p.* 156. Atriplex olida sive sylvestris fœtida. *Park. Theat. p.* 749. Chenopodium caule diffuso, foliis obtuse lanceolatis. *Hal. Stirp. Helv. n.* 1577. Chenopodium olidum. *Curt. Flor. Lond.* Chenopodium Vulvaria. *Huds. Ang. p.* 107. *Lightf. Scot. p.* 149. *Withering. Bot. Arr. p.* 255.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 309.

Ess. Gen. Ch. *Cal.* 5-phyllus, 5-gonus. *Cor.* 0. *Sem.* 1, lenticulare, superum.

Sp. Ch. C. foliis integerrimis rhomboideo-ovatis, floribus conglomeratis axillaribus.

Chenopodium Vulvaria

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THE root is annual: the stems are procumbent, channelled, branched, and grow from six to twelve inches in length: the leaves are numerous, entire, of an irregular rhomboidal form, or often egg-shaped, veined, of a mealy appearance, and stand alternately upon short footstalks: the flowers are very small, of a light green colour, and placed in clusters at the alæ of the leaves: the calyx consists of one pentagonal leaf, cut into five pointed concave divisions: there is no corolla: the five filaments are small, tapering, about the length of the segments of the calyx, and furnished with double round antheræ: the germen is orbicular, and supports two styles, terminated with obtuse stigmata: the seed is lenticular, and is inclosed by the calyx, which supplies the place of a capsule. It is usually found about old walls and rubbish, flowering in August.

This plant, in its recent state, has a nauseous taste, and a strong offensive smell, resembling that of putrid salt fish, and remaining long on the hands after touching the herb.* "It gives a strong impregnation to water both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered." This plant has been expunged from the Materia Medica of the London Pharmacopœia, but it is still retained in that of Edinburgh. Its virtues are ascribed to its remarkable fetor, from which it is inferred by Dr. Cullen to be a powerful antispasmodic, and especially recommended in hysterical affections.

Dr. Cullen says "it has been frequently employed in this "country with advantage; not however so frequently as might be "expected, as it is a plant, in its fresh state, not always ready at "hand, and in its dry state it loses all its sensible qualities. It "can only be employed therefore in its recent state, and the most "convenient formula is that of a conserve; and as it is not always "easy to reconcile our patients to it even in that state, it is not "employed so often as I could wish." *Mat. Med. vol. ii. p. 365.*

* Odoris virosi intolerabilis, ut qui vel attactu levi manus ita inficit, ut longo tempore vix possit elui. *Raii Hist. p.* 198.

RUMEX HYDROLAPATHUM. WATER DOCK.

SYNONYMA. Hydrolapathum. *Pharm. Edinb.* Lapathum. aquaticum, folio cubitali. *Bauh. Pin. p.* 116. Hydrolapathum magnum. *Gerard. Emac. p.* 389. Hydrolapathum majus. *Park. Theat. p.* 1225. *Raii Hist. p.* 171. *Synop. p.* 140. §. 1. Lapathum foliis longè lanceolatis, paniculis densissimus. *Hall. Stirp. Helv. n.* 1588. R. Hydrolapathum. *Hudson. Flor. Ang. p.* 154. *Withering. Bot. Arr. p.* 374. *Relhan. Flor. Cant. p.* 149.

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 451

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Semen* unicum triquetrum.

Sp. Ch. R. floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis acutis. *Hudson, l. c.*

THE root is perennial, large, thick, externally black, internally whitish: the stem is erect, channelled, branched, green, and rises about five feet in height: the upper leaves are long, narrow, and on the flower-spikes linear and pointed; those at the bottom of the stem are near a foot and a half in length, of a narrow ovate form, somewhat indented at the edges, and stand upon long strong channelled footstalks: the flowers are numerous, and hang in whorled spikes upon slender peduncles: the calyx is divided into three narrow pointed permanent segments: the corolla consists of three petals, which are ovate, narrow, pointed: the stamina are six, short, slender, and furnished with erect double antheræ: the germen is turban-shaped, triangular, and supports three reflexed styles, terminated by rough glandular stigmata: the capsule is formed of the three petals, which by approaching each other assume a triangular form, and in this state are called *valves;*

Rumex Hydrolapathum

Published by W. Phillips, Oct.r 1st 1809.

these are very large, ovate, pointed, slightly notched towards the base, and furnished with an oblong grain, extending down the middle of each valve: the seed is solitary, ovate, triangular. It is a native of England, growing in ditches, pools, and rivers, and flowers in July and August.

The Hydrolapathum of the Edinburgh Pharmacopœia is referred to the R. aquaticus of Linnæus, which is supposed to be a different species from the Hydrolapathum of Mr. Hudson,[a] though the same synonyms are ascribed to both. The plant here represented, which was found in the river Rodon, near Woodford Bridge, by having toothed valves, does not agree with the specific characters given by either of these authors; but it seems to correspond exactly with the description of it subjoined by Dr. Withering.[b]

The root, which is the part of this plant directed for medicinal use, has a strong austere taste, and readily strikes a black colour to a solution of ferrum vitriolatum, and yields its active matter both to water and to rectified spirit.

Many of the Lapatha[c] were formerly officinal herbs, of which the Water Dock has been esteemed to be the most efficacious, and by the Edinburgh College is still retained in the Materia Medica: the leaves, which manifest considerable acidity, are said to possess a laxative quality, and have therefore been used to obviate costiveness: the roots are strongly astringent, and have been much employed both externally and internally for the cure of scurvy;[d] especially when the gums are spongy, and frequent hæmorrhages supervene. It is also recommended in various other cutaneous

[a] *L. c.* [b] *L. c.*

[c] From λαπαζω, evacuo λαπτω, idem. Alston.

——— Si dura morabitur alvus,
Mitulus & viles pellent obstacula conchæ
Et Lapathi brevis herba. HORAT. SAT. 4. lib. 2. v. 27.

[d] Linnæus speaks highly of its use. Vide *Amœn. vol.* 4. *p.* 38. *Flor. Suec. p.* 118. And in *Lind's Treatise on the Scurvy, p.* 264.

defœdations, and in visceral obstructions: and in order to give the Hydrolapathum additional importance, Muntingius has taken great pains to prove that it is the *Herba Britannica* of the ancients;[c] but many physicians still think this root does not peculiarly differ from other astringents, and are sceptical enough to place no faith in the great virtues ascribed to it by Muntingius and Sir John Hill.

[c] *Diss. Hist. Med. de vera herba Britannica.* See *Dios. l.* 4. *c.* 2. *Plin. lib.* 25. *c.* 3.

The powdered root is said by Murray to be an excellent dentrifice. *App. Med. vol.* 3. *p.* 314.

RUMEX ACETOSA. COMMON SORREL.

SYNONYMA. Acetosa. *Pharm. Lond. & Edinb.* Acetosa pratensis. *Bauh. Pin. p.* 114. Oxalis crispa. *J. Bauh. ii. p.* 990. Oxalis seu Acetosa. *Gerard. Emac. p.* 396. Acetosa vulgaris. *Park. p.* 742. Lapathum acetosum vulgare. *Raii Synop. p.* 148. *Raii Hist. p.* 178. Lapathum sexubus distinctis, foliis sagittatis, hamis retrorsum porrectis. *Hal. Stirp. Helv. n.* 1597. R. Acetosa. *Withering. Bot. Arrang. p.* 376. *Relhan Flor. Cant. p.* 149. *Hudson's Ang.* 156.

Class Hexandria.* *Ord.* Trigynia. *Lin. Gen. Plant.* 451.

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Sem.* 1, triquetrum.

Sp. Ch. R. Flor. dioicis, fol. oblongis sagittatis.

THE root is perennial, slender, long, and fibrous: the stalk is erect, channelled, branched at the top, partially of a purplish red colour, and usually rises from one to two feet in height: the

* This plant, according to the strictness of methodical system, ought to belong to the class Dioecia, as the flowers are distinctly male and female in different plants: our figure represents the former.

Rumex Acetosa

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radical leaves are narrow, oblong, arrow-shaped, of a bright green colour, and stand upon long footstalks, but those on the stem are without footstalks, and placed alternately: the flowers are produced in terminal branched spikes, partly tinged of a reddish colour, and stand upon short slender peduncles: the calyx is composed of three oval segments: the corolla consists of three petals, shaped like the divisions of the calyx: the six filaments are short, slender, and furnished with erect double antheræ: the germen is triangular, and supports three simple reflexed styles, with bearded stigmata: the seeds are naked, single, and of a triangular shape. It is common in meadows and pastures, and flowers in June.

Some writers have referred this plant to the Lapathum quartum[a] of Dioscorides, and to the Lapathum sylvestre, quod alii oxalidem appellant, of Pliny.[b] But as the word ὀξὺ has been indiscriminately used both to signify sharp, with respect to the taste of a plant, and in relation to the form of its leaves, there may be a doubt whether those authors have done right, in exclusively applying it in the former sense as in the name Acetosa.—The leaves of common Sorrel have an agreeable acid taste, like that of the Oxalis Acetosella, or Wood-sorrel, which we have before described; and as they are medicinally employed for the same purposes, what has been already said of that plant will in a great measure apply to this; which from being easily procured in great abundance may be conveniently substituted for it. Sorrel, taken in considerable quantity, or used variously prepared as food, will certainly be found of important advantage where a refrigerant and antiscorbutic regimen is required;[c] and we are told by Linnæus, that the Laplanders experience a serum acetosatum to be in this respect an useful and pleasant diet.[d]

[a] *L. ii. cap.* 108. [b] *L. xx. cap.* 21.

[c] See Morin in *Hist. de l'Ac. des Sciences*, 1708. p. 52. Barthol. *Act. Havn.* 1671, p. 35. Boerhaave *Hist. Plant. L. B. P. ii.* p. 540.

[d] *Flor. Lapp.* p. 94.

RHEUM PALMATUM. OFFICINAL RHUBARB.

SYNONYMA. Rhabarbarum. *Pharm. Lond. & Edin.* Rhabarbarum verum Med. *Hope, l. inf. cit.* Rheum *palmatum;* fol. palmatis acuminatis. *Lin. Spec. Plant. p.* 281. Conf. cel. Hope descriptionem in *Act. Philosoph. Londin. vol.* 55. *c. l.* Linnæi. jun. in *Pl. rarior. hort. Upsal.* fasc. 1. item cl. Sandemani in *Diss. de Rheo palmato;* et Milleri in ejus *Illustr. Syst. Sex.*

Class Enneandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 506.

Ess. Gen. Ch. Cal. 0. *Cor.* 6-fida, persistens. *Sem.* 1, triquetrum.

Sp. Ch. R. foliis palmatis acuminatis scabriusculis: sinu baseos dilatato, petiolis supra obsolete sulcatis margine rotundatis. *Aiton. Hort. Kew.*

THE root is perennial, thick, of an oval shape, and sends off long tapering branches; externally it is brown, and internally of a deep yellow colour: the stalk is erect, round, hollow, jointed, sheathed, slightly scored, branched towards the top, and rises to the height of six or eight feet: the radical leaves are numerous, large, rough, of a roundish figure, and deeply cut into lobes, and irregularly pointed segments, and stand upon long smooth round footstalks: the leaves which proceed from the stalk are placed at the joints, which they supply with membranous sheathes, and are successively smaller towards the upper part of the stem: the flowers terminate the branches, which they surround in numerous clusters, forming a kind of spike, and appear in April and May: the corolla divides into six obtuse segments, which are of a greenish white colour, and alternately smaller: the calyx is wanting: the filaments are nine, slender, about the length of the corolla, and furnished with oblong double antheræ: the style is very short, and ter-

Rheum palmatum

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minated by three reflected stigmata: the germen becomes a triangular seed, with membranous margins of a reddish colour. It is a native of Tartary in Asia.

It was not until the year 1732 that naturalists became acquainted with any plant which seemed to afford the Rhabarbarum Officinale,[a] when some plants, received from Russia by Jussieu at Paris, and Rand at Chelsea,[b] were said to supply this important desideratum, and as such were adopted by Linnæus, in his first edition of the Species Plantarum, under the name of Rheum Rhabarbarum. This however was not very generally received as the genuine Rhubarb plant; and with a view to ascertain this matter more completely, Kauw Boerhaave procured from a Tartarian rhubarb merchant the seeds of those plants, whose roots he annually sold, and which were admitted at Petersborough to be the true rhubarb: these seeds were soon propagated, and were discovered by De Gorter to produce two distinct species, viz. the R. Rhabarbarum of Linnæus, or as it has since been called R. undulatum, and another species, a specimen of which was presented to Linnæus, who declared it to be a new one, and was first mentioned in the second edition of the Sp. Plantarum in 1762, by the name of R. palmatum, (the plant we have figured). Previous to this time, De Gorter had repeatedly sent its seeds to Linnæus,[c] but the young plants which they produced constantly perished; at length

[a] The Rheum Rhaponticum of Linnæus, or Rhaponticum folio Lapathi majoris glabro of C. Bauhin, is generally supposed to be the Rhabarbarum of the ancients; "Alpinus aliique putant esse Pα vel Pῆον veterum, cujus radicem usurparunt. *(Vide Dioscorid. Mat. Med. lib. 3. cap. 2.)* Ipse Alpinus sibi circa annum 1610, stirpem ex Thracia procuravit, et hæc Patavio Venetiam primo, dein inde in Angliam ad Parkinsonium (Theat. Bot. p. 157.) prevenit." Murray Ap. Med. vol. 4. 354. It is well known that the ancient rhubarb had not the purgative power of the modern.

[b] Seeds of this species were also sent to Miller from Boerhaave at Leyden, by the title of "Rhabarbarum verum Chinense." See his Gard. Dict.

[c] See the letters between De Gorter and Linnæus, by Nozeman, in *Verhandelingen van het Genootschap to Rotterdam, vol.* 1. p. 455, and cited by Murray.

he obtained the fresh root, which succeeded very well at Upsal, and afterwards enabled the younger Linnæus to describe this plant[d] ann. 1767. But two years antecedent to this, Dr. Hope's account of the Rheum palmatum, as it grew in the botanic garden near Edinburgh, had been read before the Royal Society at London; and of the great estimation in which this plant was held by him, we have the following proof: "From the perfect similarity of this root with the best foreign rhubarb in taste, smell, colour, and purgative qualities, we cannot doubt of our being at last possessed of the plant which produces the true rhubarb, and may reasonably entertain the agreeable expectations of its proving a very important acquisition to Britain."[e] But from the relation we have given, it appears that the seeds of both R. undulatum, and R. palmatum, were transmitted to Petersborough, as those of the true Rhubarb: we are therefore to conclude, that the former species has an equal claim to this importance with the latter;† and from further enquiries made in Russia, there is the best authority for believing that the R. compactum also affords this very useful drug.[f] The seeds of the Rheum Palmatum were first introduced

[d] *Vide Plant. rarior. hort. Upsal. fasc.* 1.

[e] See *Philosoph. Trans.* for the year 1765.

† Bergius says, "Rheum palmatum producit *Rhabarbarum* in officinis *Sibiricum* appellatum; certe e seminibus a Buchariis e montosis Tibeti in Russiam apportatis, & postea satis hocce Rheum palmatum enatum est." (Vide Pallas *Reise*, &c. vol. 3. p. 157) "*Rhabarbarum* vero *Chinense* ex alia specie Rhei desumptum esse videtur." (Vide Georgi *Reise*, &c. vol. 1. p. 211.)

[f] The roots of the Rheum Palmatum were considered to be the best rhubarb, "donec viri celeberrimi, Pallas et Georgi, qui nuperrime in rem naturalem Russiæ itineribus suis inquisiverunt, scrupulos novos excitarent. Nam percontanti ill. Pallas Buchari, folia Rhei palmati sibi ignota declararunt, describentes contra ea folia veri Rhabarbari rotunda et in margine paucis modo incisionibus notata; unde concludit iste Rheum compactum potius fuisse intellectum. Huc pertinent supra ex cl. Georgi itinerario dicta (V. p. 360) de Cosacco quodam, qui Rheum undulatum pro vera specie significavit. Uterque etiam arbitratur, Rheum undulatum in montibus australioribus apertioribus et siccioribus, quales Tibetici sunt,

into Britain in 1762,* by Dr. Mounsey, (who sent them from Russia) and were supposed to be a part of those already mentioned; and since their prosperous cultivation by the late Professor of Botany at Edinburgh, the propagation of this plant has been gradually extended to most of our English gardens, and with a degree of success which promises in time to supersede the importation of the foreign root.[g]

Two sorts of rhubarb roots are usually imported into this country for medical use, viz. the Chineze,‡ and the Turkey rhubarb;[h] the

præstantiorem posse radicem ferre quam montes frigidi et humidi Sibiriæ." *Murray l. c.* Pallas *Reise*, vol. 3. p. 156. Georgi *Reise*, vol. 1. p. 210. The seeds of the compactum were sent to Miller "from Petersborough, for the true Tartarian rhubarb, and were gathered from the plants growing on the spot, where the rhubarb was taken up; and upon trial of the roots, they are found to be as good as the foreign rhubarb." See his Dict. 6th edition.

* In the Hort. Kew. this plant is said to have been first cultivated in England by Miller in 1768.

[g] The Society for Encouragement of Arts, Manufactures, and Commerce, has laudably contributed to this national object, of which their Transactions published bear sufficient evidence.

‡ Colitur hoc a Chinensibus, præcipue in provincia Xensi sub nomine *Taihoang*. Bergius M. M. p. 332.

[h] "Olim, quum commercium in orientalibus regionibus per Natoliam fieret, Rhabarbarum ex portibus Turcicis ad Europæas transferebatur, unde nomen Rhabarbari Turcici." Murray, l. c. Mr. Bell (in his *Travels from St. Petersburg to divers parts of Asia)* says, that the best rhubarb grows plentifully on a long chain of mountains in Tartary, which extend from Selin to the lake Koko-nor near Tibet. At a proper age the roots are taken up, which, according to Pallas, is in April or May; but in Bell's account, this is said to be done in the autumn: they are then to be cleaned, the smaller branches cut off, and the larger roots divided into pieces of a proper size; after this they are perforated, and suspended to dry either upon the neighbouring trees, or in tents, or as some have reported, to the horns of sheep. The proper exsiccation of this root is certainly attended with considerable difficulty, and the cultivators of rhubarb in this country have not yet agreed in what mode this is to be best accomplished. The recent root in this process, according to the experiment of Sir William Fordyce, loses nearly nine-tenths of its weight." See *Trans. of the Society for Encouragement of Arts, &c.*

first is in oblong pieces, flattish on one side, and convex on the other; compact, hard, heavy, internally of a dull red colour, variegated with yellow and white, and when recently powdered appears yellow, but on being kept becomes gradually redder. The second is the most valuable, and is brought to us in roundish pieces, with a large hole through the middle of each; it is more soft and friable than the former sort, and exhibits, when broken, many streaks of a bright red colour. "The marks of the goodness of rhubarb are, the liveliness of its colour when cut; its being firm and solid, but not flinty or hard; its being easily pulverable, and appearing when powdered of a fine bright yellow colour; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth; its taste is subacrid, bitterish, and somewhat styptic; the smell lightly aromatic."

The purgative qualities of rhubarb are extracted more perfectly by water than by rectified spirit: the root remaining after the action of water is almost if not wholly inactive; whereas after repeated digestion in spirit, it proves still very considerably purgative. The virtue of the watery infusion, on being inspissated by a gentle heat, is so much diminished, that a dram of the extract is said to have scarcely any greater effect than a scruple of the root in substance; the spirituous tincture loses less; half a dram of this extract proving moderately purgative. "The qualities of "this root are that of a gentle purgative, and so gentle that it is "often inconvenient by reason of the bulk of the dose required, "which in adults must be from half a dram to a dram. When "given in a large dose, it will occasion some griping, as other "purgatives do; but it is hardly ever heating to the system, or "shews the other effects of the more drastic purgatives. The "purgative quality is accompanied with a bitterness, which is "often useful in restoring the tone of the stomach when it has "been lost; and for the most part its bitterness makes it sit better "on the stomach than many other purgatives do. Its operation "joins well with that of neutral laxatives; and both together "operate in a lesser dose than either of them would do singly.

" Some degree of stipticity is always evident in this medicine, " and as this quality acts when that of the purgative has ceased, " so in cases of diarrhœa, when any evacuation is proper, rhubarb " has been considered as the most proper means to be employed. " I must however remark here, that in many cases of diarrhœa, " no further evacuation than what is occasioned by the disease is " necessary or proper.—The use of rhubarb in substance for keep- " ing the belly regular, for which it is frequently employed, is by " no means proper, as the astringent quality is ready to undo " what the purgative had done; but I have found that the pur- " pose mentioned may be obtained by it, if the rhubarb is chewed " in the mouth, and no more is swallowed than what the saliva " has dissolved. And I must remark in this way employed it is " very useful to dyseptic persons. Analagous to this, is the use " of rhubarb in a solution, in which it appears to me, that the " astringent quality is not so largely extracted as to operate so " powerfully as when the rhubarb was employed in substance."[k]

The officinal preparations of this drug are, a watery and a vinous infusion, a simple and a compound tincture. It is also an ingredient in different compositions, as the Elixir ex aloe et rheo, pilulæ stomachicæ, and some others.

[k] We have transcribed this account from Dr. Cullen, who has paid more than usual attention to this article. See *Mat. Med.* vol. 2. p. 529.

POLYGONUM BISTORTA. GREATER BISTORT, Or, SNAKEWEED.

SYNONYMA. Bistorta. *Pharm. Lond. & Edinb.* Bistorta. major. *Gerard. emac.* 399. Bistorta major vulgaris. *Park. Theat.* 391. Bistorta major rugosioribus foliis. *J. Bauh.* iii. 538. Bistorta radice minus intorta. *Bauh. Pin.* 192. *Raii Synopsis,* 147. *Raii Hist.* 186. *spec.* 1. Polygonum radice lignosa contorta, spica ovata, foliorum petiolis alatis. *Hal. Stirp. Helv.* No. 1558. *Withering. Bot. Arrang.* 406. *Flor. Dan.* 421. *Curtis Flor. Lond.*

Class Octandria. *Ord.* Trigynia. *L. Gen. Plant.* 495.

Ess. Gen. Ch. *Cor.* 5-partita, calycina. *Sem.* 1, angulatum.

Sp. Ch. P. caule simplicissimo monostachyo, foliis ovatis in petiolum decurrentibus.

THE root is about the thickness of a finger, perennial, crooked, rugose, of a firm texture, and of a reddish or flesh colour, covered with a brown rind, and furnished with numerous small fibres and creepers: the stalk is simple, bending, solid, round, smooth, swelled at the joints, enclosed by the sheaths of the stipulæ, and is a foot and a half or two feet in height; the radical leaves are ovalish, or rather heart-shaped, pointed, and stand upon long winged footstalks; the upper leaves embrace the stem, and are narrower and undulated. The flowers stand upon short footstalks, and terminate the stalk in an oblong close spike; the corolla is small, of tubular appearance, and divided into five oval obtuse segments, of a reddish white colour, and at the base supplied with several nectarious glands; the bracteal, or floral leaves, are membranous, withered, and each encloses two flowers; the filaments are tapering, white, longer than the corolla, and the antheræ are

Polygonum Bistorta

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purple; the styles are three, about the length of the stamina; the stigmata are small and round; the germen is triangular, of a red colour, and the seeds are brown and remarkably glossy.

Bistort [a] is a native of Britain;* it grows in moist meadows,[b] and flowers in May and September. Every part of the plant manifests a degree of stipticity to the taste, and the root is esteemed to be one of the most powerful of the vegetable astringents. Lewis says, that this "astringent matter is totally dissolved both by water and rectified spirit; the root, after the action of a sufficient quantity of either menstruum, remaining insipid: on inspissating the tinctures, the water and spirit arise unflavoured, leaving extracts of intense stipticity." [c]

The root of Bistort was formerly considered to be alexipharmic and sudorific; but its uses seem only to be derived from its styptic powers; it is therefore chiefly indicated in hæmorrhages and other immoderate fluxes. Dr. Cullen observes, that the Bistora, "both by its sensible qualities, and by the colour it gives with green vitriol, and by the extracts it affords, seems to be one of the strongest of our vegetable astringents, and is justly commended for every virtue that has been ascribed to any other. As such we have frequently employed it, and particularly in intermittent fevers, and in larger doses than those commonly mentioned in Materia Medica writers. Both by itself, and along with gentian, we have given it to the quantity of three drams a day." [d] The dose of the root in substance is from a scruple to a dram.

[a] Bistora, *quasi* bis torta, twice twisted, or wreathen, is a modern name. Alston M. M. i. 339. "Radix est serpentis modo intorta." Whence it was called Serpentaria, Colubrina, and Dracunculus. And it has been variously considered to be the Oxylapathum, Britannica, and Limonium of the ancients. Vide Bauh. Pin. 192. Matth. 946.

* In the North of England this plant is known by the name of Easter-Giant, and the young leaves are eaten in herb pudding.

[b] It grows about *Battersea*, and by the side of *Bishop's Wood* near *Hampstead*. Curt. Flor. Lond. [c] Mat. Med. 154. [d] Mat. Med. ii. 40.

LAURUS CINNAMOMUM. CINNAMON-TREE.

SYNONYMA. Cinnamomum. *Pharm. Lond. & Edin.* Cassia cinnamomea. *Herm. Lugd. Bat.* 129. t. 655. *Pluk. Almag.* 88. Cinnamomum foliis latis ovatis frugiferum. *Burm. Zeyl.* 62. *t.* 27. Arbor canellifera Zeylanica, cortice acerrimo seu præstantissimo, qui Cinnamomum Officinarum. *Breyn. Prod.* ii. 17. Cinnamomum sive Canella Zeylanica. *Bauh. Pin.* 408. Canella seu Cinnamomum vulgare. *Bauh. Hist.* 1446. The Cinnamon-tree of Ceylon. *Raii Hist.* 1561. Laurus Cinnamomum. *Jacq. Americ.* p. 59. t. 117. Rasse Coronde. *Zeylonarum.*

Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 509.

Ess. Gen. Ch. *Cal.* 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis trinerviis ovato-oblongis: nervis versus apicem evanescentibus.

THIS valuable and elegant laurel rises above twenty feet in height; the trunk extends about six feet in length, and one foot and a half in diameter; it sends off numerous branches, which are covered with smooth bark, of a brownish ash colour; the leaves stand in opposite pairs upon short footstalks; they are of an ovalish oblong shape, obtusely pointed, entire, firm, from three to five inches long, of a bright green colour, and marked with three whitish longitudinal nerves; the common peduncles grow from the younger branches, and after dividing, produce the flowers in a kind of paniculated umbel. The petals are six, oval, pointed, concave, spreading, of a greenish white or yellowish colour, and the three outermost are broader than the others; the filaments are nine, shorter than the corolla, flattish, erect, standing in ternaries, and, at the base of each of the three innermost, two small round

Laurus Cinnamomum.

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glands are placed; the antheræ are double, and unite over the top of the filament; the germen is oblong, the style simple, of the length of the stamina, and the stigma is depressed and triangular: the fruit is a pulpy pericarpium, resembling a small olive, of a deep blue colour inserted in the corolla, and containing an oblong nut.

The true Cinnamon-tree is a native of Ceylon, where, according to Ray, it grows as common in the woods and hedges as the hazel with us, and is used by the Ceylonese for fuel and other domestic purposes. Its cultivation was first attempted in this country about the year 1768 by Mr. Philip Miller, who observes, "that the Cinnamon and Camphire trees are very near akin," and that if the berries of these trees were procured from the places of their growth, and planted in tubs of earth, the plants might be more easily reared than by layers, which require two years or more before they take root. We wish, however, to caution those who make the trial, to plant this fruit immediately upon being obtained from the tree, for Jacquin remarks, "Cæterum ad sationem transportari semina nequeunt, quum paucos intra dies nuclei corrumpantur, atque effœti evadunt."[a] Ray seems to think that the Cassia cinnamomea of Herman, the Cassia lignea, and the Cassia fistula of the ancient Greek writers, were the same, or varieties of the same species of plant.[b] But an inquiry of more importance is, whether the Cinnamon of Ceylon is of the same species as that

[a] Jacquin's Americ. At Ceylon, "it is particularly owing to a certain kind of Wild Doves, which, from their feeding on the fruit of the Cinnamon-tree, they call *Cinnamon-eaters*, that these trees grow so plentifully in this island." A Seba Ph. Trans. vol. 36. p. 105.

[b] It is necessary to observe, that the ancient signification of these names is very different from the modern. The younger branches of the tree, with their bark covering them, were called by the Greek writers κινναμωμον Cinnamomum, and sometimes Ξυλοκασία, or Cassia lignea; but when they were divested of their bark, which by its being dried became tubular, this bark was denominated κασία συριγξ, or cassia fistula.—But as in process of time the wood of this tree was found useless, they stripped the bark from it, and brought that only; which custom prevails at this day. See account of the Cinnamon-tree by Dr. Watson, Phil. Trans. vol. 47.

growing in Malabar, Sumatra, &c. differing only through the influence of the soil and climate in which it grows, or from the culture or manner of curing the Cinnamon. Mr. White and Mr. Combes, who have investigated this subject with considerable attention, agree with Gracias, and determine this question in the affirmative.*

* According to many botanical writers the principal marks of distinction of these plants are to be found in the leaf, which in the Cinnamon of Ceylon is more oval and less pointed than the others, and the nerves do not reach to the margin; while in the Cinnamon of Sumatra they are said to be continued to the extremity of the leaf.—Respecting the bark it is well known to be less warm and grateful to the taste, manifesting that viscosity on being chewed which is never observable in the Ceylon Cinnamon. But Mr. White, with the assistance of Dr. Matty, carefully compared the specimens of the Cinnamon-tree, (commonly called Cassia) which he had from Sumatra, with those from Ceylon, preserved in the British Museum, which were the collections of Boerhaave, Courteen, Plukenet, and Petiver, and found the difference so inconsiderable, as fully to justify his opinion. In Murray's edition of the Systema Veg. we find superadded to the description of Cassia, "Esse modo Varietatem præcedentis, (Cinnam.) foliis angustioribus et obtusioribus, Thunberg in Act. Scockh. 1780. p. 56. The difference of the bark itself it thus stated by Ray, "Officinæ nostræ Cassiam ligneam a Cinnamomo seu Canella distinctam faciunt, Cassiam Cinnamomo crassiorem plerumque esse colore rubicundiorem, substantiâ duriorem, solidiorem & compactiorem, gustu magis glutinoso, odore quidem & sapore Cinnamomum aptius referre, tamen Cinnamomo imbecilliorem & minus vegetam esse ex accurata observatione. Tho. Johnson." But Mr. White says, "From the specimens I shall now produce, it will most plainly appear, that these differences are merely accidents, arising from the age of the Canella, the part of the tree from whence it is gathered, and from the manner of cultivating and curing it." And he observes, "If any conjecture can arise from hence, it may be, that the Cinnamon of Ceylon was formerly, as well as that of Sumatra and Malabar, called Cassia; but that the Dutch writers, being acquainted with the excellent qualities which the ancients ascribed to their Cinnamon, chose to add the name Cinnamon to that of Cassia; and in process of time they have found the name of Cinnamon more profitable than that of Cassia, by which we chuse to call our Canella, to our national loss of many thousands a year." (Phil. Trans. vol. 50. p. 887.) How far the reasoning of Mr. White is really well founded, we leave to the judgement of others; it may however be remarked, that his opinion is not a little supported, from the consideration that the Cinnamon plant varies exceedingly, even in the island of Ceylon, where Burman collected nine different sorts, and Seba actually describes ten.

The use of the Cinnamon-tree is not confined to the bark, for it is remarkable that the leaves, the fruit, and the root, all yield oils of very different qualities, and of considerable value: that produced from the leaves is called Oil of Cloves, and Oleum Malabathri: that obtained from the fruit is extremely fragrant, of a thick consistence, and at Ceylon is made into candles, for the sole use of the king; and the bark of the root not only affords an aromatic essential oil, or what has been called Oil of Camphor, and of great estimation for its medical use, but also a species of camphor, which is much purer and whiter than that kept in the shops.

The spice, so well known to us by the name of Cinnamon, is the inner bark of the tree;[c] and those plants produce it in the most perfect state, which are about six or seven years old, but this must vary according to circumstances. Seba says, "Those which grow in the vallies, where the ground is a fine whitish sand, (and there are many such vallies in the island of Ceylon) will in five years time be fit to have the bark taken off. Others, on the contrary, which stand in a wet slimy soil, must have seven or eight years time to grow before they are ripe enough." And the bark of those trees, which stand in a very dry soil, and much exposed to the sun, has often a bitterish taste, which Seba attributes to "the camphor being by the sun's rays rendered so thin and volatile, that it rises up and mixes with the juice of the tree." The bark, while on the trees, is first freed of its external greenish coat; it is then cut longitudinally, stripped from the trees, and dried in sand, till it becomes fit for the market, when it is of a reddish yellow, or pale rusty iron colour, very light, thin, and curling up into quills or canes, which are somewhat tough, and of a fibrous texture. It is frequently mixed with cassia, which is distinguished from the

[c] "If you taste the inner membrane of the bark when fresh taken off, you will find it of most exquisite sweetness, whereas the outward part of the bark differs but very little in taste from the common trees; but in drying, the oily and agreeable sweetness communicates and diffuses itself throughout the whole outward part." Seba l. c.

Cinnamon by its taste being remarkably slimy. This bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of astringency. Its aromatic qualities are extracted by water in infusion, but more powerfully by it in distillation, and in both ways also by a proof spirit applied. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class: by its astringent quality, it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus. The aromatic principle is an essential oil, which is obtained by distilling at once large quantities of this spice, or rather cassia, which is usually employed in these operations; and the oil thus separated is so extremely pungent, that on being applied to the skin it produces an eschar: in doses of a drop or two diluted by means of sugar, mucilages; &c. it is one of the most immediate cordials and restoratives in languors, singultuses, and all debilities. This oil is imported from the East-Indies, and a tincture, a simple, and a spirituous water, are directed by the Pharmacopœias to be prepared from this spice.

LAURUS SASSAFRAS. SASSAFRAS TREE.

SYNONYMA. Sassafras. *Pharm. Lond. & Edinb.* Cornus mas odorata, folio trifido, margine plano, Sassafras dicta. *Pluk. Alm.* 120. *Catesb. Carolin.* 1 p. 55. Sassafras sive lignum pavanum. *J. Bauh.* i. 483. Sassafras, arbor ex Florida, ficulneo folio. *Bauh. Pin.* 431. Sassafras. *Gerard. Emac.* 1525. *Park. Theat.* 1606. *Raii Hist.* ii. 1568. Laurus foliis integris trilobisque. *Trew. Ehret.* t. 69. *Duham. Arb.* 1. p. 350. *Kalm. Canad.* 2. p. 270.

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Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 503.

Ess .Gen. Ch. *Cal.* 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. fol. trilobis integrisque.

THE Sassafras tree rises sometimes to the height of twenty or thirty feet,* and is about twelve or fifteen inches in diameter, but it is commonly of much less growth, and is divided towards the top into several crooked branches: the bark of the young shoots is smooth and green, of the old trunks it is rough, furrowed, and of a light ash colour: the leaves vary both in form and size, some being oval and entire, others cut into two or three lobes; they are all of a pale-green colour, veined, downy on the under side, and placed alternately upon long footstalks: the flowers are produced in pendent spikes or panicles, which spring from the extremities of the shoots of the preceding year; they appear in May and June, and are generally male and female upon different trees: the corolla is divided into six leaves, which are narrow, convex, and of a dingy yellow colour: the male flowers have nine [a] filaments, crowned with round antheræ; the bracteæ are linear, and placed at the base of the pedicles; there is no calyx, and the berries produced by the female flowers are similar in shape and colour [b] to those of the cinnamon.—See plate.

The Sassafras tree is a native of North America, [c] and appears to

* Vide Marshall's Arbustrum Americanum, p. 75.

[a] Miller says eight, but in the specimen figured, which was procured from a male tree in the King's garden at Kew, nine stamina were observed in all the flowers.

[b] Marshall, l. c.

[c] "G. Piso Monardis descriptioni circa lignum Sassafras non acquiescendum esse ait, siquidem affirmat Sassafras Floridæ lignum decorticatum vix ullius dignitatis esse, cùm Brasiliense eximiæ dignitatis & virtutis habeatur, atque à cortice liberatum in aliquot annos immune servatur." Vide Raii Hist. p. 1569.

have been cultivated in England sometime before the year 1633, for in Johnson's edition of Gerard, he says, " I have given the figure of a branch taken from a little (Sassafras) tree, which grew in the garden of Mr. Wilmote at Bow."‡ It is said that the Sassafras tree was first discovered by the Spaniards in 1538, when they possessed themselves of Florida ;[d] and the wood was first imported into Spain about the year 1560, where it acquired great reputation for curing various diseases.[e] It is now usually imported here in long straight pieces, very light, of a spongy texture, and covered with a rough fungous bark. It has a fragrant smell, and a sweetish aromatic subacrid taste: the root, wood, and bark, agree in their medical qualities, and are all mentioned in the pharmacopœias; but the bark is the most fragrant, and thought to be more efficacious than the woody part, and the small branches are preferred to the large pieces. " The virtues of Sassafras are extracted totally by spirit, but not perfectly by water. Distilled with the latter it yields a fragrant essential oil of a penetrating pungent taste, and so ponderous as to sink in water. Rectified spirit extracts the whole taste and smell of Sassafras, and elevates nothing in evaporation; hence the spirituous extract proves the most elegant and efficacious preparation, as containing the whole virtue of the root." Sassafras, according to Bergius, is " sudorifera, diuretica, purificans," and useful in " rheumatism, cutaneous diseases, and ulcers." Lewis says that it is used as a mild corrobo-

‡ This account differs from that given by Ray, who says, that —— " Tho. Johnsonus in Gerardo suo emaculato: qui Sassafras arbusculæ â se visæ in horto D. Guliel. Coys Stratfordiæ propé Londinum ramulum describit & depingit, &c. Hist. l. c.

[d] It is called cinnamon-wood on account of its smell, which made the Spaniards, when they conquered Florida, in 1538, under Ferdinand de Soto, hope to find that valuable spicery there, which grows only in Ceylon." *Savary Dict.* ii. 1487.

[e] " Ligni quoddam genus ex Florida, nunc recens in Hispaniam invehitur, cujus ante paucos annos, notitiam Gallus quidam mihi dedit, ejus facultates mirum in modum prædicans adversus varios morbos, ut Galli experti erant, ab incolis edocti. Dicitur Iudis Pavame, Gallis, nescio quam ad causam, Sassafras." *Monard. Hist. ed. anno* 1569.

rant, diaphoretic, and sweetener in scorbutic, venereal, cachectic, and catarrhal disorders.[f] Its medical character was formerly held in great estimation, and its sensible qualities, which are stronger than any of the other woods, may have probably contributed to establish the opinion so generally entertained of its utility in many inveterate diseases; for soon after its introduction into Europe, it was sold at a very high price,[g] and its virtues were extolled in publications professedly written on the subject.[h] It is now, however, thought to be of very little importance, and seldom employed but in conjunction with other medicines of a more powerful nature. Dr. Cullen "found that a watery infusion of it taken *warm*, and pretty *largely*, was very effectual in promoting sweat; but (he adds) to what particular purpose this sweating was applicable, I have not been able to determine."[i] In some constitutions Sassafras, by its extreme fragrance, is said to produce head-ach; to deprive it of this effect the decoction ought to be employed.

Sassafras is an ingredient in the decoctum sarsaparillæ compositum, or decoctum lignorum; but the only officinal preparation of it is the essential oil, which may be given in the dose of two drops to ten. Watery infusions made both from the cortical and woody part, rasped or shaved, are commonly drunk as tea; but the spirituous tincture, or extract, which contains both the volatile and fixed parts of this medicine, appears to be preferable.

[f] Lewis M. M.

[g] Viz. 50 livres per pound.

[h] See Sassafrasologia, &c. published by J. R. Bremane, 1627.

[i] Cullen's M. M. ii. 200.

LAURUS NOBILIS. COMMON SWEET-BAY.

SYNONYMA. Laurus. *Pharm. Lond. & Edinb. Dodon.* 849. *Camer. Epit.* 60. *Gerard. Emac.* 1407. *J. Bauh. Hist.* 1. 405. The Common Bay-tree. *Raii Hist.* 1688. Laurus vulgaris. *Bauh. Pin.* 460. Laurus major sive latifolia. *Park. Parad.* 598. Laurus nobilis. *Trew. nov. act. ph. med.* A. N. C. vol. 2. p. 381. Laurus foliis ovato-lanceolatis, ramis florigeris, folio brevioribus. *Hall. Stirp. Helv.* n. 1602. *Arbor* Δαφνη *Fructus* Δαφνιδες *Dioscor.*

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. Cal. 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3 bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis venosis lanceolatis perennantibus, floribus quadrifidis.

THE Bay-tree never rises to any considerable height, but usually sends off many radical shoots, which grow close and bushy:[a] the bark is smooth, and of a dark olive colour: the leaves are elliptical, pointed, smooth, veined, entire, often waved at the margin, of a shining green colour, and stand erect upon short channelled foot-stalks: the flowers come forth in April and May, and, like those of the Sassafras, are male and female upon different plants;* they appear in clusters of three or four together, standing upon short peduncles at the axillæ of the leaves; the corolla divides into four oval leaves, which stand erect, and are of a yellowish white colour; the stamina vary in number, from seven to thirteen; there is no

[a] Tum spissa ramis laurea fervidos
Excludet ictus.—Hor. lib. ii. Ode xv.

* We have figured the male plant.

Laurus nobilis

Published by W. Phillips, New Yard 1809.

calyx, and the glands, &c. correspond with the generic description: the style of the female flowers is very short, and the germen becomes an oval berry, covered with a dark green rind, and separable into two lobes or cotyledons.

This tree is a native of Italy, and other southern parts of Europe, and the first account we have of its cultivation in England is given by Turner in 1562;[b] it is a handsome evergreen, and now very common in the shrubberies and gardens of this country. The leaves and berries possess the same medicinal qualities, both having a sweet fragrant smell, and an aromatic astringent taste.[c]— The berries are imported from the Streights, and are much stronger than the leaves. "In distillation with water the leaves yield a small quantity of very fragrant essential oil: with rectified spirit they afford a moderately warm pungent extract. The berries yield a larger quantity of essential oil: they discover likewise a degree of unctuosity in the mouth, give out to the press an almost insipid fluid oil, and on being boiled in water a thicker butyraceous one, of a yellowish green colour, impregnated with the flavour of the berry."[d]

[b] Turn. Herb. part 2. fol. 32. in Hort. Kew. cit.

[c] Lewis M. M. 382.

[d] Their spicy warmth has recommended them for culinary purposes, and in this way they were much used by the Romans, "Apud veteres Romanos inter cibi condimenta in culinis frequenter adhibebantur, ut testatur Apicius Cœlius." And the leaves both of this plant, and the common laurel, are frequently used in custards, &c. But the practice has by many been discontinued, since a recent and fatal proof of the poisonous qualities of the latter was made public. To such we may observe, that the common laurel, or Prunus Lauro cerasus of Linnæus, differs very materially from the plant here represented, both in its effects and in its botanical characters. The common sweet bay may be thus used not only with safety but with the advantage of assisting digestion: and it has even been thought to obviate the poisonous effects of the laurel: "Aqua stillatitia Lauri, secundum Clar. Cantwell, antidotus est aquæ stillatitiæ Lauro cerasi." (Hall. l. c.) It may be remarked, however, that the deleterious part of the laurel is the essential oil which requires to be separated by distillation, in order to become an active poison.

The Laurus of honorary memory,[e] the distinguished favourite of Apollo,[f] may be naturally supposed to have had no inconsiderable fame as a medicine;[g] but its pharmaceutical uses are so limited in the present practice, that this dignified plant is now rarely employed, except in the way of enema, or as an external application; thus, in the London pharmacopœia the leaves are directed in the decoctum pro fomento, and the berries in the emplastrum cumini. The berries however appear to possess some share of medicinal efficacy,[h] and if we do not allow them to be so extensively useful as represented by J. Bauhin, Tournefort,

[e] Laurus planta est, Apollini lucidissimo sacra: quin etiam a Jove colitur. It was not only generally worn as a triumphal crown, but, by the Emperor Tiberius, as a protection against thunder. "Laurum fulmine non percuti veteribus persuasum fuit." "Eadem superstitione nititur observatio illa de crepitu quem folia & virgæ Lauri inter urendum edunt. Nam si crepuissent abundè ac sonatiùs, haud dubie portendi felicem eventum rebantur: quòd si tacita deflagrassent, tristem & inauspicatum." The Laurus, as well as the Olive, was considered as an emblem of peace, and called Laurus pacifera, "si ejus rami prætendebantur inter armatos hostes, firmum quietis erat indicium." *(Matthiol)* Musas in Laurinis montis Parnassi sylvis sidere finxerunt. Eâdem coronabantur Pœtæ. Necnon adhuc quibusdam in locis novi Medicinæ Doctores Lauro coronantur: inde fortasse Laureandi & Laureati dicuntur. *(Geoff.)*

[f] Cui Deus. At conjux quoniam mea non potes esse,
Arbor eris certe, dixit, mea. Semper habebunt
Te coma, te citharæ, te nostræ, Laure, pharetræ.
Tu ducibus Latiis aderis, cum læta triumphum.
Vox canet; & longæ visent Capitolia pompæ.
Postibus Augustis eadem fidissima custos
Ante fores stabis; mediamque tuebere quercum.
Utque meum intonsis caput est juvenile capillis;
Tu quoque perpetuos semper gere frondis honores.

OVID. MET. I. v. 557.

[g] "Laurus apud veteres medicos magnum habuit in medicina usum, & veluti panacea æstimata fuit." Geoff.

[h] Haller says, "Calida & aromatica planta, semine, potissimum, cujus vires a medicis nondum pro dignitate per experimenta exploratæ sunt." I. c.

Laurus Camphora

Published by W. Phillips, Dec.r 1st. 1809.

Geoffroy, and some others, yet we have no doubt of their virtus, stomachica, resolvens, pellens menses, urinam, sudorem, as stated by Bergius, who recommends them only in hysteria. They have been long thought to act with peculiar power upon the uterine system, and on this account we are cautioned against their use in pregnancy.[i] An infusion of the leaves is sometimes drunk as tea; and the essential oil of the berries may be given from one to five or six drops, on sugar, or dissolved by means of mucilages, or in spirit of wine.

[i] Baccas Lauri interne sumptas, abhorret cl. Spielmann, ob vim prout dicit, infamem abortum promovendi, sanguinemque multum exæstuandi, etiam ubi pauca solum grana data fuerint. In praxi hodierna raro exhibentur baccæ; vidi tamen plures, etiam fœminas, quæ pulverem e seminibus Capsici & baccis Lauri, supra memoratum, innoxie sumpserunt, sæpe per octiduum. Bergius M. M. 324.

LAURUS CAMPHORA. CAMPHOR-TREE.

Arbor ex qua obtinetur Camphora, *Pharm. Lond. & Edinb.*

SYNONYMA. Camphora officinarum. *Bauh. Pin. p.* 500. *Park. Theat. p.* 1575. Laurus camphorifera Japon. vulgo Kus noki. *Kæmpfer. Amœn. exot. p.* 770. Arbor camphorifera Japonica. *Breyn. exot. plant. cent. p.* 11. *Prod. p.* 7. et *icon. rarior. p.* 16. *Raii Hist. p.* 1679. Arbor camphorifera Japonica, foliis laurinis, fructu parvo globoso, calyce brevissimo. *Commel. Hort. Amstel. tom. i. p.* 189. *tab.* 95. Conf. *Thumb. Fl. Japon. p.* 178. *Trew. in Nov. act. nat. cur. tom. ii. App. p.* 358. *& Burm. Fl. Ind. p.* 92. *& Flor. Cap. Prodr. p.* 12.

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis triplinerviis lanceolato-ovatis.

THIS tree grows to a considerable height, dividing into many branches, covered with smooth greenish bark: the leaves are ovate, lance-shaped, entire, smooth, nerved, on the upper side of a pale yellowish green colour, on the under glaucous, and stand upon long footstalks: the flowers are small, white, standing upon short pedicles, terminating the common peduncles, which are long, naked, erect, and proceed from the alæ of the leaves: there is no calyx: the corolla is composed of six small ovate concave unequal petals: the nectarium consists of three tubercles, terminating in bristly points, surrounding the germen: the filaments are nine, shorter than the corolla, and furnished with round antheræ: the inner filaments are supplied at the base with two round glands: the germen is roundish: the style is simple, about the length of the filaments, and terminated by an obtuse stigma: the fruit resembles that of the Cinnamon.

This tree is a native of Japan, growing abundantly in the woods of the western part of the island. It was first cultivated in Britain by Miller,[a] and by being easily propagated it is now a common green-house plant in this country, where, though it often seems sufficiently luxuriant and healthy, it very rarely produces flowers: so that for the annexed figure we are obliged to Dr. Smith, who supplied us with a specimen from his Herbarium.

Although this is the tree from which Camphor is chiefly obtained, and from which all Europe is supplied with this drug,[b] many other vegetables however are well known to afford a similar substance; of these, that most worthy of notice is a large tree, indigenous to the islands of Borneo and Sumatra, which, though a different genus, somewhat resembles that of the Laurus,[c] and is

[a] *Aiton. Hort. Kew.*

[b] *Murray, App. Med. vol. iv. p.* 446.

[c] We have seen the fruit of this tree, (in the possession of Dr. Smith) which has not the least affinity to that of any of the genus Laurus.

very fully described by Houttuyn;[d] also by Grimm,[e] Miller,[f] Marsden,[g] and others; by whom we are told it grows sometimes to the height of 100 feet, exceeds fifteen in circumference, and yields the Camphor in a native concrete state, in both these islands; but that of the former is accounted the best, and obtained more abundantly than in Sumatra.

The Camphor is found to lodge every where in the interstices of the fibres of the wood, also in the pith, but most abundantly in the crevices and knots of this tree; which, in order to obtain the drug, must be cut down, its bark taken off, and the wood split. The larger pieces which in the Malay language are called *Copalla* (head), are first picked out from the upper part of the tree, afterwards the smaller, named *Poeruet* (belly), and lastly that which adheres to the wood, and is procured by rasping, denominated *Caki*, or feet.

This native Camphor, when freed from woody fibres, is consumed in the East, and sold, even to the Japanese, at a very high price: it does not suffer so much loss or change, on exposure to the open air, as that imported from Japan, and appears in every respect to be a much purer and more valuable medicine.[h] From this tree likewise exudes an oily or rather resinous fluid, named oil of Camphor;[i] which is of great estimation for its external use in relieving pains, and resolving inflammatory tumours.

Of the other vegetables which yield Camphor, we have already

[d] See *Verhandelingen door de Maatschappye d. Weetensch. te Harlem, vol. xxi. p.* 266. *sqq. tab.* 8. He calls it, Laurus foliis ovalibus acuminatis lineatis, floribus magnis tulipaceis.

[e] Arbor Camphoræ. *Eph. nat. cur. Dec.* 2. *An.* 1. *p.* 371. *fig.* 33.

[f] See an account of Sumatra by Charles Miller in *Phil. Trans. vol.* 68. *p.* 169.

[g] *Hist. of Sumatra. p.* 121.

[h] V. Rademacher in *Verhand. van het Batavisch Genootschap. d. Wetens. vol.* 2. *p.* 127.

[i] See authors cited above, and Ten Rhyne *Litt. ad Jac. Breynium in Prodr. p.* 13.

noticed the Laurus Cinnamon, to which might be added several others which contain some proportion of this substance.[k]

The Camphor brought to Europe is to be considered as the essential oil of the tree here represented, obtained at Japan by a kind of distillation, or sublimation, and for this purpose the root is said by Ten Rhyne[l] to be the only part employed; but according to Cleyer[m] the Camphor is procured not only from the root, but also from the young branches; and by Kæmpfer and Thunberg both the root and wood are mentioned as affording this valuable medicine.[n]

Abbé Grosier, and the author of *Flora Cochinchinensis,** inform us, that this tree, which is called *Tchang,* grows in China to an immense size; and the former states the process for obtaining the Camphor by the Chinese to be as follows: " They take some branches, fresh from the *Tchang,* chop them very small, and lay them to steep in spring water for three days and three nights. After they have been soaked in this manner, they are put into a kettle, where they are boiled for a certain time, during which they keep continually stirring them with a stick made of willow. When they perceive that the sap of these small chips adheres sufficiently to the stick in the form of a white frost, they strain the whole, taking care to throw away the dregs and refuse. This

[k] Of these we may cite many of the Verticillatæ, as sage, rosemary, lavender, hyssop, pepper-mint, and many others: Chenopodium ambrosioides. Achillea Millifolium & Ageratum, Unxia camphorata; and more particularly Schœnanthus persicus, (Kæmpf. Amœn. ex. p. 773.) Radix Zedoariæ, (Grimm in *Eph. n. c. Dec.* 2. *an.* 3. *p.* 409.) Thyme *(Phil. Trans. vol.* 33. *p.* 321.) Radix Enulæ (Malouin *Chemie med. tom.* 1. *p.* 321.) Anemone pratensis. Also Rad. asari, sem. fœniculi, cubebæ, &c.

[l] *L. c.*

[m] *Eph. N. C. Dec.* 2. *a.* 10. *p.* 79.

[n] Kæmpf. l. c. p. 772 Thunb. *Flor. Japon. p.* 72.

* He says, " Habitat frequens, & inculta, non minus in China, quam in Japoniâ." *v. i. p.* 250.

juice is afterwards poured gently into a new earthen bason, well varnished, in which it is suffered to remain one night. Next morning it is found coagulated, and formed into a solid mass. To purify this first preparation, they procure some earth from an old earthen wall, which, when pounded and reduced to a very fine powder, they put into the bottom of a bason made of red copper; over this layer of earth they spread a layer of Camphor, and continue thus until they have laid four strata. The last, which is of very fine earth, they cover up with the leaves of pennyroyal; and over the whole they place another bason, joining it closely to the former by means of a kind of red earth, that cements their brims together. The bason thus prepared is put over a fire, which must be managed so as to keep up an equal heat: experience teaches them to observe the proper degree. But above all, they must be very attentive lest the plaster of fat earth, which keeps the basons together, should crack or fall off; otherwise the spirituous parts would evaporate and ruin the whole process. When the basons have been exposed to the necessary heat, they are taken off and left to cool; after which they are separated, and the sublimated-Camphor is found adhering to the cover. If this operation is repeated two or three times, the Camphor is found purer and in larger pieces. Whenever it is necessary to use any quantity of this substance, it is put between two earthen vessels, the edges of which are surrounded with several bands of wet paper. These vessel are kept for about an hour over an equal and moderate fire, and when they are cool the Camphor is found in its utmost perfection, and ready for use."°

The crude Camphor, exported from Japan, appears in small greyish pieces, and is intermixed with various extraneous matters: in this state it is received by the Dutch, and purified by a second sublimation; after which it is formed into loaves, the state in which it is brought to us. The peculiar method used by the Dutch in

° See General Description of China, translated from the French, vol. i. p. 451.

this process has long been kept a secret; but others have succeeded in refining this drug, and the manner of performing it is now detailed and found to answer the purpose very well.[p]

Pure Camphor is white, pellucid, somewhat unctuous to the touch; of a bitterish aromatic acrid taste, yet accompanied with a sense of coolness; of a smell fragrant, and approaching to that of rosemary, but much stronger. It is totally volatile and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, fixed or volatile alkaline liquors, nor in the acids of the vegetable kingdom.[q]

Camphor does not seem to have been known to the Greeks; but by the Arabians it was called Cafur, or Canfur, and was supposed to possess a refrigerant power.[r] To most small insects, and even to frogs and birds, the effluvia of Camphor prove very destructive, as appears from the experiments of Menghini and Carminati.[s] Taken inwardly by birds or quadrupeds, as rabbits, cats, dogs, sheep, &c. to the quantity of a dram, it has been found universally to produce deleterious effects;[t] and in large doses it has occasioned symptoms equally dangerous on man, instances of which are related by Griffin, Alexander, Whytt, Collin, Hoffman, Callisen, Cullen, and others. Whether Camphor ought to be considered as a califacient and stimulant, or as a refrigerant and sedative, we are surprized should of late have become a subject

[p] The following method is directed in the *Pharm. Suecica. p.* 52.

Rec. Camphoræ crudæ libras duas,
Calcis ustæ pulveratæ unciam unam.

Simul trita immittantur cucurbitæ vitreæ latæ et depressæ, atque arneæ calore sensim aucto liquetur Camphora. Remisso postea calore sublimetur masse pellucida, a scoriis, confracto vitro, separanda.

[q] Duncan's Edinburgh New Dispensatory.

[r] See Avicenna ed. Alpagi et Rinii. p. 563. Also Serapion.

[s] Mengh. *Comment. Bonon. tom.* 3. *p.* 314. *sq.* Carm. *de animal. ex mephitibus interitu. p.* 186.

[t] *Carm. & Mengh. l. c*

of controversy; the experiments of Alexander, who found that his pulse was lessened ten vibrations in a minute,[u] sufficiently establish its sedative character; and though some instances might show a contrary effect, they are such as occasionally occur[x] from the use of medicines universally admitted to be the most powerful of this class, and are to be explained as a secondary effect upon the principle of a reaction in the system; and our own experience, as well as that of several others noticed below, who have given it successfully in inflammatory complaints, leads us to conclude with Dr. Cullen, that inflammation is never the direct operation of this substance.

[u] *Experimental Essays, p.* 227.

[x] Quarin says, "Vidi enim in multis, quibus camphora majori dosi exhibita fuit, pulsum celerrimum, faciem ruberrimam, oculos torvos inflammatos, convulsiones et phrenitidem lethalem secutam fuisse." *Method. med. febr. p.* 57.

Respecting the use of this important medicine, in different diseases, we shall follow Dr. Cullen,* whose words we shall transcribe, adding, however, proper notes and references, conformably to the plan hitherto pursued in this work.

* "It has been much employed in fevers of all kinds, particularly in nervous fevers attended with delirium and much watchfulness; and in such I have frequently employed it with advantage. Some time ago, I have often seen it employed by my fellow-practitioners in such cases: and that the good effects of it did not always appear, I imputed it to its being used only in small quantities. Since we came into the free use of wine and opium, Camphire has been little employed in the practice of this country. The use of it, however, has been very fully established by some of the most eminent physicians on the continent: among these I reckon the late learned and experienced Werlhoff,[y] who often employed it in many inflammatory diseases with great benefit, and plainly gives us his opinion in favour of its refrigerant power.

"The use of this medicine has been especially remarkable in putrid fevers,[z] of

[y] *Comm. Norimberg.* 1734. & 1735. We may also notice Huxham and Hoffman, l. inf. c.

[z] Pringle, *Diss. of the Army, p.* 310. 316. Reverius, *Obs. et hist. Cent. i. Obs.* 24. & 29. *Cent.* 2. *Obs.* 18. 62. 64. Hoffman, *Diss. de usu interno Camphoræ* 1714. *p.* 20. Huxam, *Oper. T.* 2. *p.* 116. Ludwig, *Advers. Med. Pract. vol.* 1. *P. i. p.* 62. Collin, *Obs. circa morb. P. iii. p.* 148. *sqq.* Even in the Plague, see Tissot, *Epist. ad Hall. p.* 237. Mindererus, *Lib. de peste. cap.* 15. Jo. Crato, *Epist. Med. a Schulzio edit. p.* 103. Hartman in *Pract. chymiatr.* 364. Schreiber, *Observ. et cogitata de pestilentia. p.* 58. *sqq.* and others.

which indeed we have not many instances in this country: but from the very remarkable antiseptic powers which it discovers in experiments out of the body,[a] it is very probable that when thrown into the body in large quantities, so that at least its more subtile parts may be diffused over the whole system, it may be expected to produce considerable antiseptic effects. Its power in resisting and curing gangrene in the experiments of Collin,[b] are very remarkable; but whether that power be owing to its antiseptic virtue alone, or to its operation at the same time on the nervous system, I would not rashly determine.

" Both from its use in low, or what are called malignant fevers, and from its antiseptic powers, it is highly probable that it has been of great service in the confluent small-pox.[c] It is also likely that it may be of service in favouring the eruption of exanthemata, and of bringing them back to the skin, when from any cause they had suddenly receded, though I have no particular experience of this.

" These are the cases of acute diseases in which Camphire has been useful; and its use in many chronic cases is equally well authenticated. Whenever diseases depend upon a mobility of the nervous power, and an irregularity of its motions, it may be expected that such a powerful sedative should be of service. Accordingly, many practitioners have reported its virtues in hysteric and hypochondriac cases; and I myself have had frequent experience of it.

" In spasmodic and convulsive affections it has also been of service;[d] and even in epilepsy it has been useful. I have not indeed known an epilepsy entirely cured by Camphire alone; but I have had several instances of a paroxysm which was expected in the course of a night, prevented by a dose of Camphire exhibited at bed-time; and even this when the Camphire was given alone: but it has been especially useful when given with a dose of cuprum ammoniacum, of white vitriol, or of the flowers of zinc.

" Since the report of Dr. Kinnier, in the Philosophical Transactions, vol. XXXV. Camphire has been often employed in cases of mania; and I have given above an account of a trial which I had made of it. In that case, however, it was not successful; nor in several other trials has it been more so with me, or other practitioners in this country.

[a] Pringle, l. c. app. p. 12.

[b] *L. c. P.* 3. *p.* 145. See also Pouteau *Melanges de Chirurgie. p.* 187.

[c] Haller, *Opusc. path. p.* 145. Tissot, *Epist. Med. Pract. p.* 237. C. L. Hoffmanns *Nachricht von e. gut. Heilart d. Kinderblattern.* 1764. *in Vogel Bib. vol.* 5. *p.* 340. Collin, *l. c. P.* 3. *cas.* 22. 23. 24. In the Small-pox Hospital, Camphor is in general use, and our own experience warrants us in saying, that in the early stages of this disease, and after proper evacuations have been effected, it seldom fails, in doses of a scruple, to relieve the pains of the head and loins, and to procure rest. But we have no reason to think with Rosenstein and Boerhaave, that the activity of the variolous miasmata is to be subdued by this medicine.

[d] Hoffman, *l. c. p.* 22. Home, *Clinical. Exp. p.* 193. Locher, *Obs. Pract. p.* 42. Millar, *on Asthma, &c. p.* 104. Collin, *l. c. cas.* 8. and others.

" We have had here lately, in a patient under the care of Mr. Lata, surgeon, a notable example of the use of Camphire in a maniacal case, which I think it proper to take notice of here.[e]

" This shows clearly enough the power of Camphire in mania; and I have only to add, that though in several other instances it has not made a cure, it has not in any instance of a moderate dose, that is, not exceeding half a dram, occasioned any disorder in the system; and in several cases it has induced sleep, and rendered the mind for some time more quiet.

" I observe that De Berger has been more successful; and perhaps the reason of our failure has been our not attending to his admonition. In his letter to Werlhoff on the subject of Camphire, he has the following passage: *Multoties hoc remedio in mea praxi utor, præcipue in inflammationibus internis, magno cum successu, et demiror tam multos medicos ab usu ejus interno abhorrere. Non diu est, quod præmissis præmittendis maniacum eo sanitati penitus restitui. In eo vero momentum præcipuum situm est, ut sufficiente dosi et diu satis exhibeatur.*

" This is particularly confirmed by a case given by Joerdens in the *Commercium Norimbergense.* In several other writers there are accounts of maniacal and melancholic cases cured by the use of Camphire; but many of the practitioners who report such cures acknowledge, that in many cases it had disappointed their expectations.* Whether these failures have been owing to the not employing at the same time nitre, vinegar, and some other remedies which are supposed to contribute much to the virtues of Camphire, we would not determine; but we are clear that mania is a disease of considerable diversity with respect to its causes, and that there are certain cases of it only to which Camphire is properly adapted. In cases of an organic affection of the brain, it is hardly to be supposed that Camphire or any other remedy can be of use.‡

" I have mentioned above, that several practitioners have employed Camphire in the most acute inflammatory diseases; and therefore we are not surprised to find that it has been given also internally in cases of acute rheumatism; and it is said to have been with advantage.[f] We have no experience of it, because we have

[e] In the case here alluded to, the dose of Camphor was gradually increased to above sixty grains three times a day, by which a cure was effected.

* Dr. Ferriar, who gave Camphor in eight maniacal cases, declares it to be " totally useless in these disorders:" in one of these cases two drams of Camphor, a scruple of musk, and eight grains of opium, were given daily, " without producing sleep, or the smallest impression upon the disease." *Med. Hist. & Reflections, p.* 174.

‡ We may here remark, that nymphomania, and other local affections producing effects of a similar kind, frequently superinduce a general state of mania, in which Camphor has been found more especially useful.

[f] See Rosenst. *Apot. p.* 7. Collin, l. c. aliique. For its good effects in fevers of the inflammatory kind, we have the testimony of Werlhoff, De Berger, Albrecht, Wolf, Joerdens, all to be found in the *Commer. Norimb.*

found another method of cure generally successful; but I take this occasion to mention its external use, as often of great service in removing the rheumatic pains of the joints or muscles. This we have often experienced, and have no doubt of Camphire having a peculiar power in taking off the inflammatory state in cases both of rheumatism and gout. In the case of rheumatism it is a matter of common experience: in the case of gout it is more rare; but I have had the following particular example of it. A gentleman had brought from the East Indies an oil of Camphire, a native substance, which seemed, by its taste and smell, to be no other than Camphire in that form, and which I perceive to be mentioned by naturalists as a native substance, produced by several trees in the East Indies. This the person possessed of recommended to all his acquaintances as an infallible remedy for the gout and rheumatism; and a gentleman who had often laboured under the gout, and then felt the pains of it unusually severe, was persuaded to apply it. He had then the gout exceedingly painful in the ball of the great toe and instep of one foot. On this part he rubbed a quantity of the oil of Camphire; and in about half an hour or a little more he was entirely freed from the pain he had before. In less, however, than an hour after, he had a pain and inflammation come upon the same part of the other foot. As the pain here became pretty severe, he again employed the oil of Camphire, and with the same effect of soon relieving the pain very entirely. The consequence of this was also the same; for in less than an hour the pain and inflammation returned to the foot that had been first affected: and here again our patient, obstinate in persisting in the trial of his remedy, again applied the oil, and he had the same success as before in relieving the part affected, and with the same effect also of occasioning a translation. But here the translation being made to the knee, the patient abstained from any farther application of the oil, and suffered the pain of the knee to remain for a day or two, and till it went off by some swelling and desquamation in the usual manner.

"This history shows sufficiently the power of Camphire in relieving the inflammatory spasm and pain of the part chiefly affected; but at the same time that it has no effect on the diathesis of the system, and that, when that subsists, as Camphire is ready to occasion a translation, it will always be employed in gouty cases with great danger. In cases of acute rheumatism, we have had occasion to remark, that a strong solution of Camphire in oil would relieve the pain of the joint for the time chiefly affected; but it was very often with the translation of it to another joint soon after: and we have therefore long ago ceased from employing such an application in all cases where an acute rheumatism was very general and strong in the system.

"It may be supposed that it is analogous to this power of Camphire in taking off an inflammatory state, that this medicine has been often found so useful in relieving toothach; and I have no doubt that Camphire operates by the power

mentioned in relieving toothach, but it is also by exciting a copious flow of saliva and mucus from the internal surface of the mouth, that water somewhat impregnated with Camphire, employed to wash the mouth, has been frequently of service in relieving the disease.

" However it may be with respect to toothach, we have no doubt that the antiphlogistic nature of Camphire may be of use in curing ophthalmia: and this gives a good ground for the many attempts that have been made to introduce Camphire into the medicines intended to be employed externally in the cure of ophthalmia.

" We have now mentioned many of the virtues of Camphire as employed by itself, and must now mention some instances of its peculiar utility when combined with other medicines.

" When combined with drastic purgatives, it is said to moderate their acrimony, and thereby their violent operation. We have not indeed perceived this, and perhaps never tried it in a proper manner; but in the mean time, the respectable authority of Mr. Lasonne,[g] the father, satisfies me that it is well founded.

" Another opinion that has been very general is, that Camphire has the power of correcting the acrimony of cantharides. In opposition to this, we would not quote the facts given by Dr. Heberden of two several instances in which Camphire seemed to occasion strangury;† for I must conclude these facts to have been very accidental occurrences, as I have employed Camphire fifty times, even in large doses, without my ever observing its having any effect upon the urinary passages. Mr. Lasonne, the father, has observed, as I have done frequently, that Camphire, though given very largely, never discovers its smell in the urine, whilst it frequently does it in the perspiration and sweat.

" It was formerly a frequent practice in this country to anoint a blistering plaster that was to be applied to the back, or other part, with camphorated oil, and this with a view of preventing strangury from the cantharides. The practice however has been long ago laid aside, because it was perceived that, in most persons, if the plaster was allowed to continue applied for above twelve hours, and while at the same time it was omitted to give the patient a large quantity of drink, a strangury would come on notwithstanding the unction of camphorated oil, and even the exhibition of a quantity of Camphire internally. The practitioners of this country have lost their faith in the power of Camphire in correcting the acrimony of cantharides; and for preventing the strangury that might otherwise arise, they trust entirely to a large exhibition of Arabic emulsion, and to the plaster's not being allowed to lie on too long.

" Another virtue ascribed to Camphire in combination, is its moderating the

[g] Lassone sen. in *Hist. de la Société. Roy. de Medecine de Paris, vol. 5. p.* 265.

† *Med. Trans. vol. i. p.* 471.

action of mercury; and if the saline preparations of mercury are triturated with a portion of Camphire, this abstracts a part of the acid that had been united with the mercury, and therefore renders the preparation more mild than before, and at the same time does not deprive entirely the preparation of much of its deobstruent virtue. This we have had experience of in that very acrid preparation of mercury the turbeth mineral, and also in the mercurius dulcis or calomel, which, by being triturated with Camphire, become less purgative, and less ready to excite salivation. How far this mitigation of the preparations of mercury leaves them equally powerful as before in the cure of syphilis, I cannot certainly determine; but am of opinion that it does not, if they be employed in the same quantities as they would have been before.

" This mitigation of the saline preparations of mercury, by a combination with Camphire, will be readily admitted; but many practitioners go farther, and alledge that mercury, in every condition, united with Camphire, becomes a more mild substance, less irritating to the system, while it is equally powerful in curing the diseases to which it is otherwise adapted.* I must admit the experience of the practitioners of France in this matter, but those of this country know nothing of it; and I can assert, that in many trials, a quantity of Camphire added to our common mercurial ointment neither prevented the unction, in the usual quantity, from exciting salivation, nor rendered the symptoms of it more mild than usual.

" A peculiar combination of Camphire said to have considerable effect, is that with opium. The employment of opium is in many persons attended with some inconvenience and disorder, as I have observed above; and every practitioner knows it to be alledged by some respectable persons, that Camphire joined with it prevents these disorders. It may be so, but I have not found it in my experiments. I have found large doses of Camphire dispose to sleep, but commonly with that same confusion of head and turbulent dreams which sometimes arise from the use of opium; and I have not found that a small quantity of Camphire has any effects in increasing the power of opium, or of rendering the operation of it different from what it would have been if employed alone. But against the respectable authorities of Lasonne and Halle,[h] I must suspect that my experiments have not been made properly or often enough.

" There is still another instance of the improvement of a medicine by a combination with Camphire. Mr. Lasonne assures us, that Camphire, joined with the Peruvian bark, gives it more energy and force, whether it be to be employed for the purpose of curing fever or gangrene; and I believe this to be well founded.

" After thus treating of the virtues of Camphire, we must speak of its dose and

* Raulin, *Observ. de Medecine. p.* 266.
Despatureaux *in Hall. Diss. Pract. vol. i. p.* 531.

[h] Hallé, *Mem. de la Société de Med. tom. cit. p.* 78.

exhibition. It will appear clearly from what is said above, that it may be given in doses of very different quantities; and it appears to me from many trials, that doses of a few grains, repeated only after long intervals, have hardly any effect at all, and that, to obtain sensible effects from it, it must either be given in large doses, not under that of twenty grains, or, if given in smaller doses, these must be repeated frequently after short intervals. The latter practice is preferred by some eminent practitioners. To what length in either way we may proceed, I have not experience enough to determine with any precision. From the effects of two scruples given in one dose in the case narrated above, and in another quoted from Dr. Hoffman, it would appear that such doses are violent and dangerous; but from some other experiments, it appears that larger doses have been sometimes given with impunity: and when it is given in divided doses, it appears from Collin's experiments, that it may be given to the quantity of a dram, or two drams in the course of a day; and in one of his experiments it was given to the quantity of half an ounce: and the same will appear from the history which I have given above. It is probable that from large doses only, considerable effects are to be expected; and as, from many experiments, it appears that the effects of Camphire are not very durable in the body, it will be obvious that the repeated and long continued use of it may be necessary to the cure of several diseases.

" With respect to the exhibition of this medicine, it is, in the first place, necessary that it should be always very minutely divided, as we know it is not readily dissolved in the stomach;[i] and while it remains there, it will float on the surface of the other contents, and in that way be applied to the upper orifice of the stomach, and give occasion to some pain there. It ought therefore to be minutely divided before it be given; and this may be done by rubbing it first in a mortar with any dry powder, such as nitre or hard sugar: but to make certain of a minute division, it is proper at the same time to add a few drops of rectified spirit of wine, or of such other spirituous menstruum as the spiritus vitrioli dulcis, or liquor anodynus mineralis of Hoffman.

" It may also be divided by rubbing it with the mucilage of gum arabic; but this will also be more perfectly executed if the Camphire is previously dissolved by a little spirit of wine or expressed oil. By its being diffused in the mucilage of gum arabic, it may be again diffused in any watery fluid for more convenient exhibition; but it is to be observed, that Camphire diffused in a watery fluid is ready to exhale from it, or arise to its surface, and to render the exhibition more disagreeable. When, therefore, any large quantity of water in which Camphire is diffused is to be prepared at once, it is proper to employ some means for entangling the Camphire. Sugar alone does not seem to be sufficient for the purpose; and it is more

[i] If this be not attended to, it constantly occasions heat and uneasiness at the stomach. See Fothergill, *Med. Observ. &c. vol. i. p.* 432.

effectually done by triturating the Camphire with mucilage alone, or with a portion of sweet almonds, and diffusing it again by means of mucilage into an emulsion.

" It has been thought that the virtues may be increased by exhibiting along with it a portion of nitre; but in many trials I have not been sensible of the benefit derived from the nitre, which, in any quantity that can be conveniently employed, has little effect on the system. It is with more probability alledged, that vinegar exhibited with Camphire is of service. Vinegar certainly gives the best means of correcting the taste of Camphire, and seems even to render it less disagreeable to the stomach; and we may allow that both by its refrigerant and antiseptic powers, it may contribute somewhat to the virtues of the Camphire."[k]

[k] *M. M. vol. ii. p.* 309.

CANELLA ALBA. LAUREL-LEAVED CANELLA.

SYNONYMA. Canella alba. *Pharm. Lond. & Edinb.* Winterania Canella. *Lin. Supp. p.* 247. Arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoso. *Sloane's Jamaica, vol. ii. p.* 87. *t.* 191. *f.* 2. *Catesby's Carolina, vol. ii. p.* 50. *t.* 50. Canella foliis oblongis obtusis nitidis, racemis terminalibus. *Browne's Jam. p.* 275. *t.* 27. *f.* 3. Cassia lignea Jamaicensis Laureolæ foliis subcinereis cortice piperis modo acri. *Pluckenet Almag. p.* 89. *t.* 81. *f.* 1. *Lin. Spec. Plant. p.* 636. *Conf. Swartz. Botanical History of the Canella Alba. Linnean Transactions. p.* 96.

Class Dodecandria. *Ord.* Monogynia. *Lin. Gen. Winterania, p.* 598.

Ess. Gen. Ch. Cal. 3-lobus. *Pet.* 5. *Antheræ* 16, adnatæ nectario urceolata. *Bacca* 3-locularis. *Sem.* 2.

THE stem of this tree rises very straight, from ten to fifty feet in height, and branched only at the top; it is covered with a whitish bark, by which it is easily distinguished at a distance from other trees in the woods where it grows: the leaves are placed upon short footstalks, and stand alternately: they are oblong,

Canella alba.

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obtuse, entire, of a dark shining green hue, and thick like those of the laurel: the flowers are small, seldom opening, of a violet colour, and grow in clusters at the tops of the branches upon divided footstalks: the calyx is monophyllus, divided nearly to its base into three lobes, which are roundish, concave, incumbent, green, smooth, membranous, and persistent: the corolla is composed of five petals, which are much longer than the calyx, sessile, oblong, concave, erect, and two of them are somewhat narrower than the other three: the nectary is pitcher-shaped, of the length of the petals, and supports the antheræ instead of filaments, which are wanting: the antheræ are twenty-one, linear, parallel, distinct, single valved, and fixed longitudinally to the nectary: the germen is ovate, placed above the insertion of the corolla, and supports a cylindrical style, furnished with two obtuse rough convex stigmata: the fruit is an oblong berry, containing four kidney-shaped seeds of unequal size.*

It appears a little surprising, that the Canella, which is a native of the West Indies, and of which figures have been given by Plukenet, Sloane, Catesby, Browne,[a] and others, should have been generally confounded with the tree which produces the cortex winteranus: even the younger Linnæus, who describes this tree under the genus Winterania, from a specimen in the herbarium of Montin, has acknowledged that he could not discover how far it differed from the Drimys, or Wintera of Murray.[b] The present

* "The whole tree (according to Dr. Swartz) is very aromatic, and when in blossom perfumes the whole neighbourhood. The flowers dried, and softened again in warm water, have a fragrant odour, nearly approaching to that of musk. The leaves have a strong smell of laurel. The berries, after having been some time green, turn blue, and become at last of a black glossy colour, and have a faint aromatic taste and smell. They are, when ripe, as well as the fruit of several kinds of laurel, very agreeable to the *White-bellied and Bald-pate Pigeons, (Columba Jamaicensis & leucocephala)* which feeding greedily upon them acquire that peculiar flavour so much admired in the places where they are found." l. c.

[a] Swartz observes, that the only tolerable figure among these is that of Browne, l. c.

[b] "Quantum differat a genere Drimys nondum bene scio." *Supp. p.* 247.

figure, which is given on the authority of Dr. Swartz, who presented it to the Linnean Society, accompanied with a botanical history of the tree,* will, we hope, remove every doubt concerning the true characters of Canella alba; and by comparing the annexed plate with that published of the Winterana aromatica, in the fifth volume of Medical Observations and Inquiries by Drs. Fothergill and Solander,‖ it may be observed how far the tree, which produces the cortex winteranus, differs from that of our plant, the bark of which is the officinal Canella alba. The latter appears from Clusius to have been first introduced into Britain about the year 1600;† the former was known in England twenty years before, and took its name from William Winter, captain of one of the ships which accompanied Sir Francis Drake to the Straits of Magellan, from whence he brought this bark to Europe in 1579. John Bauhin appears to be the first [d] who confounded the names of these barks, by styling the cortex winteranus Canella alba; and as Sir Hans Sloane, who has given a separate description of both trees, and was sensible of a difference in the taste of their barks, seems to insinuate that this might depend upon the place of growth, his remarks did not wholly remove the error.[e]

Professor Murray, in his 14th edition of the Systema Vegetabilium, was the first who made a distinct genus of Canella, and thus corrected the mistake of Linnæus,‡ who, disregarding the evidence

[c] *Vide l. c.*

* Read before the Linnean in December 1788.

‖ "*Some Account of the Cortex Winteranus, or Magellanicus, by Dr. John Fothergill, with a Botanical Description by Dr. Solander, and some Experiments by Dr. Morris.*" *p.* 41.

† He says, "Ante paucos annos (1605) cœpit exoticus cortex inferri, cui nomen Canellæ albæ indiderunt." *Exot. lib. iv. cap.* 4.

[d] *Hist. vol. i. p.* 460. [e] *Phil. Trans. No.* 192. *p.* 462.

‡ *P.* 443. Though Murray has here said, "Cortex hujus est Canella alba officinarum," yet the London College has not availed itself of this authority, no botanical reference being given to Canella alba in the new pharmacopœia.

of the old botanists,* combined two genera under the name of Laurus Winterana;[f] but he afterwards made it a separate genus, and called it Winterania,[g] a name by which it has been long universally, though improperly distinguished. Mr. Aiton, who has followed Murray in considering the Canella, as differing generically from the tree named after Winter, informs us, that it was cultivated by Mr. Phillip Miller, at Chelsea, in 1739.[h]

The officinal Canella alba is the bark of the branches of this tree, freed from its outward covering, and dried in the shade. It is brought to Europe in long quills, which are about three quarters of an inch in diameter, somewhat thicker than cinnamon, and both externally and internally of a whitish or light brown colour, with a yellowish hue, and commonly intermixed with thicker pieces, which are probably obtained from the trunk of the tree. This bark in taste is moderately warm, aromatic, and bitterish; its smell is agreeable, and resembles that of cloves. Its virtues are extracted most perfectly by proof spirit. "In distillation with water it yields an essential oil of a dark yellowish colour, of a thick tenacious consistence, difficultly separable from the aqueous fluid, in smell sufficiently grateful, though rather less so than the bark itself: the remaining decoction, inspissated, leaves an extract of great bitterness, in consistence not uniform, seemingly composed of a resinous and gummy matter, imperfectly mixed. On inspissating the spirituous tincture, the spirit which distils has no great smell or taste of the Canella, but is so far impregnated with its more volatile oil as to turn milky on the admixture of water: the remaining extract retains the bitterness of the bark, but has little more of its warmth or flavour than the extract made with water."[i]

* Among these we may notice Plukenet, who, speaking of these two trees, says, "Varie inter se plurimum diversæ plantæ per illarum ignorationem plane confunduntur." *Almag. Mant. p.* 40.

[f] *Sp. Plant. ed.* 1. *p.* 371. [g] See his *Hort. Cliff.* 448. and *Mat. Med.*

[h] *Hort. Kew. vol. ii. p.* 125.

[i] Lewis, *M. M. p.* 186.

The use of Canella alba now supersedes that of the old bark of Winter, on the authority of both the London and Edinburgh pharmacopœias. It has been supposed to possess a considerable share of medicinal power, and is said to be an useful medicine in the scurvy, and some other complaints; but it is now considered merely in the character of an aromatic, and like many of the spices is chiefly employed for the purpose of correcting and rendering less disagreeable the more powerful and nauseous drugs. It is therefore an ingredient in the pulv. aloet. Pharm. Lond. and in the tinctura amara, vinum amarum, vinum rhei, &c. of the Pharm. Ed. Swartz tells us, that "this bark, together with the fruit of Capsicum, was formerly a common ingredient in the food and drink of the Caribs, the ancient natives of the Antilles; and even at present it makes a necessary addition to the meagre pot of the negroes." l. c.

MYRISTICA MOSCHATA. NUTMEG TREE.

SYNONYMA. Nux Moschata. *Pharm. Lond. & Edinb. Park. Theat. p.* 1600. *Raii Hist. p.* 1522. Nux Moschata, fructu rotundo. *Bauh. Pin. p.* 407. *Pluk. Almag. p.* 267. Nux Moschata rotunda, sive femina. *Gerard, Emac. p.* 1536. *Breyn. Prod. vol. ii. p.* 77. Nux Myristica. *Rumph. Amb. vol. ii. tab.* 4. Myristica Moschata. *Thumb. Act. Stockholm. ann.* 1782. *p.* 46. *t.* 1. *Conf. Mémoire sur le genre du Muscadier Myristica, par Mr. De La Marck; Hist. de l'Acad. Royal des Scien. pour l'an.* 1788. *pub. en* 1790. *p.* 148.

Class Dioecia. *Ord.* Syngenesia. *Shreb. Gen. Plant.* 1562.

Ess. Gen. Ch. *Masc. Cal.* 3-fidus. *Cor.* 0. *Antheræ* circum supremam partem filamenti adnatæ.
Fem. Cal. 3-fidus. *Cor.* 0. *Styl.* breviss. *Stigma* bifida. *Caps.* drupacea. *Shreb.*

Sp. Ch. M. foliis lanceolatis fructu glabro. *Thunb.*

Myristica Moschata

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THIS tree attains the height of thirty feet, producing numerous branches which rise together in stories, and covered with bark, which of the trunk is a reddish brown, but that of the young branches is of a bright green colour: the leaves are nearly elliptical, pointed, undulated, obliquely nerved, on the upper side of a bright green, on the under whitish, and stand alternately upon footstalks: the flowers are small, and hang upon slender peduncles, proceeding from the axillæ of the leaves: they are both male and female upon separate trees.

Of the *male flower* the calyx consists of one bell-shaped leaf, divided at the brim into three small teeth: there is no corolla: the stamina, according to De La Marck, are from six to twelve, joined in a bundle, consisting of four short filaments, inserted into the receptacle, and surrounded with antheræ, which are long, linear, and united.

Of the *female flower* the calyx is similar to that of the male flower: there is no corolla: the germen is above, oval, and supports a style, terminated by two stigmata: the fruit is round or oval, and of the drupous kind, of which the external covering is fleshy, tough, and by opening at the top separates into two valves, and discovers the Mace, which has a reticulated appearance, and divides into three portions, which closely invest a slender shell containing the seed or Nutmeg. This tree is a native of the East Indies, particularly the Molucca Islands.

The Nutmeg has been supposed to be the Comacum of Theophrastus, but there seems little foundation for this opinion, nor can it with more probability be thought to be the Chrysobalanos of Galen. Our first knowledge of it was evidently derived from the Arabians; by Avicenna it was called Jiausiban, or Jausiband,[a] which signifies Nut of Banda. Rumphius both figured and described this tree;[b] but the figure given by him is so imperfect, and the description so confused, that Linnæus, who gave it the

[a] *Lib. ii. cap.* 503, and by Serapion it was named Jeuzbave.

[b] Vide, *l. c.*

generic name Myristica, was unable to assign its proper characters. Sonnerat's account of the Muscadier is still more erroneous;[c] and the younger Linnæus was unfortunately misled by this author, placing the Myristica in the class Polyandria, and describing the corolla as consisting of five petals.[d] Thunburg, who examined the flower of the Nutmeg, places it in the class monoecia, and according to his description, the male flower has but one filament, surrounded at the upper part by the antheræ;[e] and as the filaments are short and slender, and the antheræ united, this mistake might easily arise.* Mr. De La Marck informs us, that he received several branches of the Myristica, both in flower and fruit, from the Isle of France, where a Nutmeg-tree, which was introduced by Mons. Poivre, in 1770, is now very large, and continually producing flowers and fruit.[f] From these branches, which were sent from Mons. Céré, Director of the king's garden in that island, Mons. De La Marck has been enabled to describe and figure this and other species of the Myristica with great accuracy; and the annexed plate will shew, that we have profited by his labours.

The seeds or kernels, called Nutmegs, are well known, as they have been long used both for culinary and medical purposes. Distilled with water, they yield a large quantity of essential oil, resembling in flavour the spice itself; after the distillation an insipid sebacious matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctious, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of Nutmegs by infusion, and elevates

[c] *Voyage à la Nouvelle Guinée, p.* 194. *t.* 116.

[d] *Supp. Plant. p.* 265.

[e] *Act. Stockholm.* 1782. *p.* 46.

* Since writing the above, Mr. Dryander informed me, that he had examined several specimens of these male flowers preserved in spirit, in each of which he found only one columnar filament, and concludes that De La Marck must have been deceived by dividing the fibres of this organ: consequently the myristica should in strictness be placed in the order monadelphia.

very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs, when heated, yield to the press a considerable quantity of limpid yellow oil, which on cooling concretes into a sebacious consistence. In the shops we meet with three sorts of unctious substances, called Oil of Mace, though really expressed from the Nutmeg. The best is brought from the East Indies in stone jars; this is of a thick consistence, of the colour of mace, and has an agreeable fragrant smell: the second sort, which is paler coloured, and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure: the third, which is the worst of all, and usually called Common Oil of Mace, is an artificial composition of sevum, palm oil, and the like, flavoured with a little genuine oil of Nutmeg.[g]

The medicinal qualities of Nutmeg are supposed to be aromatic, anodyne, stomachic, and restringent,[h] and with a view to the last mentioned effects, it has been much used in diarrhœas, and dysenteries. To many people the aromatic flavour of Nutmeg is very agreeable; they, however, should be cautioned not to use it in large quantities, as it is apt to affect the head, and even to manifest an hypnotic power in such a degree as to prove extremely dangerous. Bontius speaks of this as a frequent occurrence in India;[i] and Dr. Cullen relates a remarkable instance of this soporific effect of the Nutmeg, which fell under his own observation,[k] and hence

[f] *L. c.*

[g] *Ed. New Dispens.* by *Dr. Duncan. p.* 238.

[h] *Bergius, M. M. p.* 884.

[i] *De Medicina Indorum, p.* 20. See also *Miscell. Nat. Cur. dec.* III. *an.* II. *obs.* 129.

[k] "A person by mistake took two drams or a little more of powdered Nutmeg: he felt it warm in his stomach, without any uneasiness; but in about an hour after he had taken it he was seized with a drowsiness, which gradually increased to a complete stupor and insensibility; and not long after he was found fallen from his chair, lying on the floor of his chamber in the state mentioned. Being laid a-bed

concludes, that in apoplectic and paralytic cases this spice may be very improper. The officinal preparations of Nutmeg are a spirit and essential oil, and the Nutmeg in substance roasted, to render it more astringent. Both the spice itself and its essential oil, enter several compositions, as the confectio aromatica ,spiritus amoniæ com. &c. Mace possesses qualities similar to those of the Nutmeg, but is less astringent, and its oil is supposed to be more volatile and acrid.

he fell asleep; but waking a little from time to time, he was quite delirious: and he thus continued alternately sleeping and delirious for several hours. By degrees, however, both these symptoms diminished, so that in about six hours from the time of taking the Nutmeg he was pretty well recovered from both. Although he still complained of head-ach, and some drowsiness, he slept naturally and quietly the following night, and next day was quite in his ordinary health." *Mat. Med. vol. ii. p.* 204.

Parietaria officinalis

Published by W. Phillips, Dec.ʳ 1ˢᵗ 1809.

ORD. XLI. SCABRIDÆ.

(From *Scaber;* rough, rugged, or bristly) rough leaved Plants.

PARIETARIA OFFICINALIS. WALL PELLITORY.

SYNONYMA. Parietaria. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 331. *Raii Hist. p.* 206. *Synop. p.* 158. Parietaria vulgaris. *Park. Theat. p.* 436. Parietaria foliis elliptico-lanceolatis hirsutis. *Hal. Stirp. Helv. n.* 1612. Parietaria officinalis. *Huds. Ang. p.* 442. *Lightf. Scot. p.* 634. *Withering Bot. Arr. p.* 1141. *Curt. Flor. Lond. Flor. Dan.* 521.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1152.

Ess. Gen. Ch. *Herm. Cal.* 4-fidus. *Cor.* 0. *Stamina* 4. *Styl.* 1. *Sem.* 1. superum, elongatum.

Fem. Cal. 4-fidus. *Cor.* 0. *Stam.* 0. *Stylus* 1. *Sem.* 1. superum, elongatum.

Sp. Ch. P. fol. lanceolato-ovatis pedunculis dichotomis calycibus diphyllis.

THE root is perennial, reddish, fibrous, creeping: the stem is erect, rough, viscous, reddish, and furnished with long spreading branches: the leaves are elliptical, pointed, veined, somewhat hairy, and placed on short footstalks: the flowers are small, of a greenish colour, tinged with red, placed at the alæ of the leaves in sessile-branched veticillate clusters, and are both hermaphrodite and female; two of the former and one of the latter are placed within the same involucrum, which is permanent, and divided into seven irregular oval pointed leafits, beset with glandular hairs:

the calyx of the hermaphrodite flower separates into four flat blunt segments, about half the size of the involucrum, and supplies the place of a corolla: the filaments are four, transversely wrinkled, and manifest an elastic power: the antheræ are double, and according to Mr. Lightfoot, have a great degree of sensibility:† the germen is egg-shaped, and supports a reddish style, terminated with a brush-like stigma: the calyx becomes the seed vessel, and contains an egg-shaped seed. The female flower stands between the other two, from which it differs in not being furnished with stamina.

It is reckoned amongst the most common of British plants, growing on old walls, and flowering from May till September.

This plant promises little from its sensible qualities: it has no smell, and its taste is simply herbaceous. Formerly it was accounted emollient, and was one of the five herbs of this denomination; but as Parietaria has no mucilaginous quality, this effect ought to be ascribed to the warm water, for which the plant served merely the purpose of a vehicle. Its character, as a diuretic, is better known. Matthiolus tells us, that its expressed juice, sweetened with sugar, had a very powerful effect in this way:[a] and Barbeirac[b] informs us, that a decoction of this plant, and uva ursi, was found of great use in clearing the urinary passages of viscid mucus, and sabulous concretions: these testimonies however will have little weight with the medical practitioner, and it is now very seldom used, though sanctioned with a place in the Materia Medica of both the Pharmacopœias.

[a] *Matt. in Diosc. p.* 782. [b] *Medic. constit.* 1751. *p.* 163.

† "For if irritated with a point of a pin, they fly from the calyx with elastic force, and explode their powder." See, *l. c.*

The leaves, strewed in granaries, are said to destroy the corn weevil. *Light.*

Dr. Withering has been informed that this plant contains a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. *Bot. Ar. p.* 1142.

This quality of parietaria is also noticed by Mr. Lightfoot. *L. c.*

Dorstenia Contrajerva

Published by W. Phillips, Dec^r 1^st 1809.

DORSTENIA CONTRAJERVA. CONTRAYERVA.

SYNONYMA. Contrayerva. *Pharm. Lond. & Edinb.* Dorstenia sphondylii folio, dentariæ radice. *Plum. ic. p.* 109. *tab.* 119. *Jacquin coll. vol.* iii. *Auctorum sequentium synonyma ad nostram plantam satis clarè referri nequeunt.* Drakena radix. *Clus. Exot. p.* 83. *J. Bauh. Hist. vol.* ii. *p.* 740. *Gerard. Emac. p.* 1621. *Raii Hist. p.* 1339. Contrayerva Hispanorum sive Drakena radix. *Park. Theat. p.* 421. *Pro matre radicis contrayervæ in medicina vulgo usitatæ, ex vivis speciminibus cl.* Houstoun *duas dorsteniæ species descripsit,* 1° Dorstenia Dentariæ radice, sphondylii folio, placenta ovali, 2° Dorstenia Dentariæ radice, folio minus laciniato, placenta quadrangulari et undulata. (*Phil. Trans. vol.* 37. *p.* 196. & 197.) Vel Dorstenia Drakena, et D. Houstoni. *Lin. Syst. Veg.*

Class Tetrandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 158.

Ess. Gen. Ch. *Receptac.* commune 1-phyllum, carnosum, in quo semina nidulantur.

Sp. Ch. D. scapis radicatis, fol. pinnatifido-palmatis serratis, receptaculis quadrangulis.

THE root is perennial, tapering, unequal, compact, rugose, externally brown, internally whitish, and furnished with numerous fibres: the leaves are various, of an irregular shape, lobed, serrated, or rather dentated, pointed, veined, and placed upon long radical footstalks, which are winged towards the leaves: the scapi, or flower-stems, are round, rough, simple, rise several inches in height, and each supports an irregular quadrangular receptacle, which contains the necessary parts of fructification: the flowers on examination were discovered to be distinctly male and female,

immersed in the common receptacle, and occupying the whole of its disc; the former consisted but of two slender short filaments, with yellow antheræ;† the latter of a roundish germen, supporting a simple style, terminated by an obtuse stigma: the capsule, when ripe, possesses an elastic power, by which the seed is thrown out with considerable force.[a]—It is a native of South America and some of the West India Islands.‡

This plant is extremely scarce in Europe: the annexed figure of it was taken from a plant now in the Royal garden at Kew, where it was lately introduced, and is, we believe, the first of this kind that ever grew in England.[b] It does not sufficiently appear from what authority Linnæus gives the Dorstenia Contrajerva. The London College has however adopted it in the list of the Mat. Med. and in compliance with this we have figured the plant; at the same time we must acknowledge, that, upon the faith of Dr. Houston, who examined the Contrayerva plants in their native soil,[c] we should otherwise have had no doubt in referring the officinal radix contrayervæ to the species he has described, as has been done by Bergius[d] and Murray.[e] But as Houston has observed, that the roots of different species of Dorstenia are promiscuously gathered and exported for those of the Contrayerva; and as all the species bear a great resemblance to each other, we conceive the further discussion of this subject to be of no material consequence. Nich. Monardus,[f] almost two centuries ago, first makes mention of the plant called Contrayerva; and as this name is of Spanish

† This plant cannot therefore be properly said to belong to the class *tetrandria.*

[a] Vide Jacquin. l. c.

‡ Jacquin found it growing on the island of Martinico. Vide l. c.

[b] We do not find any species of the Dorstenia mentioned in the *Hort. Kew.* lately published.

[c] The first species on the high ground near Old Vera Cruz: and the second on the high rocky ground about Campechy in the year 1730. *Phil. Trans. vol.* 37. *p.* 197.

[d] *Mat. Med. p.* 73. [e] *App. Med. vol.* 4. *p.* 572.

[f] Vide Clusius *Exot. p.* 311.

origin, signifying an antidote to poison, it might apply to any other plant supposed to possess this power. We are told by Clusius, that he received from Sir Francis Drake some roots which were brought from Peru, where they were highly valued, and reported to counteract the effects of every kind of poison, of which the leaves of the same plant were said to be one. This root, in compliment to the circumnavigator, he named Drakena radix, and is generally thought by botanists to be that of Contrayerva. The generic name, Dorstenia, was first used by Plumier,[g] and afterwards by Linnæus, who makes four species of this genus.

The root of Contrayerva has a peculiar kind of aromatic smell, and a light astringent warm bitterish taste, and on being long chewed it discovers somewhat of a sweetish sharpness. According to Lewis, "Contrayerva root gives out its virtue, by the assistance of heat, both to water and rectified spirit, and tinges the former of a dark brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter."[h]

The antipoisonous virtues formerly attributed to this root, have been long very justly exploded as entirely chimerical, so that it is now merely employed as a diaphoretic of a moderately stimulant kind, being possessed of less pungency than any other of those medicines usually denominated alexipharmic. Putrid and nervous fevers are the diseases in which Contrayerva is chiefly used, conformably to the practice of Huxham and Pringle, whose works are well known to all our medical readers.

[g] *Nov. gen. plant.* [h] Lewis *Mat. Med.*

URTICA DIOICA. COMMON NETTLE.

SYNONYMA. Urtica. *Pharm. Lond. & Edinb.* Urtica urens maxima. *Bauh. Pin. p.* 232. Urtica urens. *Gerard. Emac. p.* 706. Urtica major vulgaris & media sylvestris. *Park. Theat. p.* 440. Urtica racemifera major perennis. *Raii Synop. p.* 139. *Hist. p.* 160. Urtica stirpibus sexu distinctis, foliis serratis ovato-lanceolatis productis. *Hal. Stirp. Helv. n.* 1614. Urtica dioica. *Huds. Ang. p.* 417. *Lightf. Scot. p.* 578. *Withering Bot. Arr. p.* 1071. *Con. Flor. Dan. p.* 746. *Curt. Flor. Lond.*

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plaut.* 1054.

Ess Gen. Ch. *Masc. Cal.* 4-phyllus. *Cor.* 0. *Nectarium* centrale, cyathiforme.

Fem, Cal. 2-valvis. *Cor.* 0. *Sem.* unicum, nitidum.

Sp. Ch. U. foliis oppositis cordatis, racemis geminis.

THE root is perennial, creeping, yellowish, furrowed, tough, and supplied with joints, from which proceed many fibres: it sends up several stalks, which are erect, very little branched, obtusely quadrangular, furrowed, purplish, beset with rigid hairs, and usually rise from two to four feet in height: the leaves are heart-shaped, pointed, widely serrated, wrinkled, veined, covered with sharp stinging hairs, and stand oppositely upon slender footstalks: at the base of the leaf-stalks there are four stipulæ, which are narrow, spreading, and on the underside channelled: the flowers are dioicous, or male and female on different plants, growing in branched pendulous hairy racemi, or clusters of four together: the calyx of the male flower is cut into four small egg-shaped obtuse segments: there is no corolla: the nectarium is turbinated, almost transparent, blunt, perforated at the top, and placed in the

Urtica dioica

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centre of the flower: the filaments are four, tapering, of the length of the calyx, and furnished with two-celled antheræ: the calyx of the female flower is composed of two valves, which are egg-shaped, concave, erect, and permanent: there is no corolla: the germen is oval, without a style, but supplied with a woolly stigma: the seed is single, compressed, blunt, shining. It is very common about old walls, sides of roads, and ditch banks, flowering in July.

The Urtica[a] is well known; and though generally despised as a noxious weed, has been long used not only for medical but for culinary and œconomical purposes.[b] As a styptic it was formerly much used; and we are told of various hæmorrhagic affections in which it was successfully employed. It is also said to manifest a diuretic character, and to be useful in calculous complaints, scurvy, gout, jaundice, &c. But these accounts have little credit, and the nettle is now considered as a simple oleraceous plant, and when young is found to be a good substitute for greens, or other pot-herbs.

The sharp hairs[c] upon the fresh leaves of nettles readily enter the skin, and thereby produce considerable irritation and inflam-

[a] "Urtica, ab urendo dicta, quod pruritum & pustulas igni similes excitet." *Bauh. Pin.*

[b] "The young shoots, in the spring, are boiled and eaten by the common people instead of cabbage-greens. *Lightf. l. c.* The stalks may be dressed like flax or hemp for making ropes, nets, cloth, paper, &c. a practice not uncommon in some parts of Russia and Siberia. Vide Falk, *Beyträge zur topogr. Kenntniss des Russ. Reichs, vol. 2. p.* 254. *Vet. Acad. Handl.* 1747. *p.* 59. *Petersb. Journ.* 1778. *p.* 370. and others. The Nettle is said to be poisonous to frogs; for if the plant be thrown into a vessel where these animals are confined, they soon begin to swell, and in a few days perish. Vide *Hagström Svar om Biskötsel, p.* 150.

[c] The stings are very curious microscopic objects: they consist of an exceedingly fine pointed tapering hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up from the bag an acrimonious fluid, which instantly enters into the wound, and excites a burning inflammation. See Hooke, *Discoveries by the microscope, p.* 22. *tab.* 12. Guettard, *Mem. de L'Acad. de Sc. de Paris,* 1751. *p.* 350.

mation, and therefore have been employed in the way of a rubifacient, a practice which is termed urtication, and found of advantage in restoring excitement in paralytic limbs,[d] or in other cases of torpor or lethargy.[e]

[d] *Celsus ed. Kraus. p.* 179.

[e] Scopoli *Fl. Carn. ed.* 1. *p.* 428. Aretæus *curat. acut. lib. i. cap.* 2. *ed. Boerh. p.* 80. H. Piso in *Spicileg. curat. p.* 6. 9. Languentis veneris incitamentum recentis Urticæ olim fuere, quorsum respicit Petronius, *(Satiricon ed. De Salas. p.* 84*)* (alii que) Vid. *Murray App. Med. vol.* 4. *p.* 592.

ULMUS CAMPESTRIS. COMMON ELM.

SYNONYMA. Ulmus. *Pharm. Lond. & Edinb.* Ulmus campestris et Theophrasti. *Bauh. Pin. p.* 426. Ulmus vulgaris. *Park. Theat. p.* 1404. Ulmus vulgatissima folio lato, scabro. *Gerard. Emac. p.* 1480. *Raii Hist. p.* 1425. *Synop. p.* 468. *Hall. Stirp. Helv. n.* 1586. U. campestris. *Hudson. Flor. Ang. p.* 109. *Withering Bot. Arr. p.* 258. *Relhan. Flor Cant. p.* 106. *Ic. Flor. Dan.* 632. *Evelyn's Sylva by Hunter. p.* 118.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 316.

Ess. Gen. Ch. *Cal.* 5-fidus. *Cor.* nulla. *Bacca* exsucca, compresso-membranacea.

Sp. Ch. U. foliis duplicato-serratis; basi inæqualibus.

THIS is very common in the neighbourhood of London, where it grows to a considerable height, sends off strong branches, and is covered with rough cracked brown bark: the leaves are ovate, rough, doubly serrated, and stand alternately upon strong foot-stalks: the flowers appear before the leaves, on short spikes at the bottom of the leaf-buds: the calyx is turban-shaped, wrinkled,

Ulmus campestris

Published by W. Phillips, June 1st 1820.

permanent, and divided at the border into five segments: there is no corolla: the five filaments are tapering, twice as long as the calyx, and furnished with short upright antheræ, marked with four furrows: the germen is round, compressed, upright, and supports two styles, which bend outwards, and are terminated by downy stigmata: the fruit is an oval large berry, which is without juice, and of a membranous texture: the seed is round, but somewhat compressed.

This tree, of which there is one variety with smaller leaves, and another with smooth leaves, grows plentifully in Worcestershire and Middlesex, but is said not to be found to the north of Stamford.

The inner tough bark, which is directed for use by the Pharmacopœias, has no remarkable smell, but has a bitterish taste, and abounds with a slimy juice, which has been recommended in nephritic cases, and externally as a useful application to burns. The external bark is brittle, contains but little mucilage, and is wholly destitute of both smell and taste. The internal bark of the branches is more bitter than that of the trunk, and therefore probably more efficacious.

The complaints for which it is chiefly recommended, are those of the cutaneous kind allied to herpes and lepra. Dr. Lysons[a] mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one; of this the patients were usually directed to drink half a pint twice a day. But as he added nitre to the decoction, and also frequently had recourse to purgatives, it may be doubted if these cures ought to be wholly ascribed to the Elm bark.

Dr. Lettsom[b] found this bark most effectual in what he supposes to be the lepra ichthyosis of Sauvages, in which it succeeded after

[a] See *Med. Transactions, vol. ii. p.* 203.

[b] See *Medical Memoirs, p.* 152.

all the medicines usually employed in such cases had failed. A remarkable instance of its efficacy also in lepra vulgaris, affecting the whole body, is related by Banau;[c] who proposes the use of Elm bark in various other diseases, as fluor albus, rheumatism, old ulcers, cancerous and scrophulous affections, tinea capitis, scurvy, &c. In very obstinate cases it is necessary to persevere in the use of the decoction for some months.

[c] See *Journ. de Paris*, 1783. *n.* 255.

MORUS NIGRA. COMMON MULBERRY TREE.

SYNONYMA. Morum. *Pharm. Lond.* Morus fructu nigro. *Bauh. Pin. p.* 459. Morus. *Gerard. Emac. p.* 1507. Morus nigra. *J. Bauh. Hist. vol. i. p.* 118. *Raii Hist. p.* 1429. *Park. Parad. p.* 596. *Du Hamel Traité des arbres fruitiers, tom. i. p.* 335. *Hunt. Evel. vol. ii. p.* 39.

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1055.

Ess. Gen. Ch. *Masc. Cal.* 4-partitus. *Cor.* 0.
Fem. Cal. 4-phyllus. *Cor.* 0. *Styli* 2. *Cal.* baccatus. *Sem.* 1.

Sp. Ch. M. foliis cordatis scabris.

THIS tree never grows to a considerable height, but sends off several crooked branches, and is covered with rough brown bark: the leaves are numerous, heart-shaped, serrated, veined, rough, of a bright green colour, and stand upon short footstalks: the flowers are male and female upon the same tree:[a] the *male flowers* are placed in close roundish catkins, each floret composed of a calyx,

[a] This is not constantly the case, as it sometimes happens that all the flowers are male, or female, and consequently barren.

Morus nigra

Published by W. Phillips, Lombard Street.

divided into four leaves, which are oval, concave, and erect: there is no corolla: the filaments are four, longer than the calyx, and furnished with simple antheræ: the calyx of the *female flower* is divided into four obtuse persistent segments: there is no corolla: the germen is roundish, and supports two rough styles, supplied with simple stigmata: the fruit is a large succulent berry, composed of a number of smaller berries, each containing an oval seed, and affixed to a common receptacle. It flowers in June, and its fruit ripens in September.

The Mulberry-tree is a native of Italy, and is now cultivated in most parts of Europe,[b] not only for the grateful fruit which it affords, but in many places for the more lucrative purpose of supplying Silk-worms with its leaves, upon which they feed.[c]

The ripe fruit abounds with a deep violet-coloured juice, which in its general qualities agrees with that of the other acido-dulces, allaying thirst, partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency, a powerful cause of thirst is removed.[d] This is more especially the case with all those fruits in which the acid much prevails over the saccharine part, as the currant, which we have already noticed;[e] and to which the medicinal qualities of this fruit may be referred; but both these, and most of the other summer fruits, are to be considered rather as articles of diet than of medicine. The London College directs a syrupus mori, which is an agreeable vehicle for various medicines.

[b] Gerard is the first who is known to have cultivated it in England.

[c] The leaves of the white Mulberry are preferred for this purpose in Europe; but in China, where the best silk is made, the silk worms are fed with those of the Morus tartarica. (Forster, in a letter to Professor Murray. See *App. Med. vol. iv. p.* 597. *dated* 1787.) From the bark of another species of Mulberry, (M. Papyrifera) the Japanese make paper, and the inhabitants of some of the islands of the South Sea make a kind of cloth.

[d] See Cullen's account of the fructus acido-dulces. *Mat. Med. vol. i. p.* 242.

[e] Page 535, vol. 4. See also Rubus and Citrus.

The bark of the root of the Mulberry-tree has an acrid bitter taste, and possesses a cathartic power. It has been successfully used as an anthelmintic, particularly in cases of Tænia.[f] The dose is half a dram of the powder.

[f] Vide, Andry, *de la generation des vers, &c. p.* 172.

FICUS CARICA. COMMON FIG-TREE.

SYNONYMA. Carica. *Pharm. Lond. & Edinb.* Ficus communis. *Bauh. Pin. p.* 457. Ficus vulgaris. *Park. Theat. p.* 1494. Ficus. *Gerard. Emac. p.* 1410. *Raii Hist. p.* 1531. Ficus Carica. *Miller Illust. Syst. sex. Du Hamel Traité des arbres Fruitiers. tom. i. p.* 207. *tab.* 1. 2. Bernard in *Obs. sur la physique, l'hist. nat. &c. tom.* 29. *tab.* 1. Συκη *Græc.*

Class Polygamia. *Ord.* Trioecia. *Lin. Gen. Plant.* 1168.

Ess. Gen. Ch. *Receptaculum* commune turbinatum, carnosum, connivens, occultans flosculos vel in eodem vel distincto.

Masc. Cal. 3-partitus. *Cor.* 0. *Stam.* 3.

Fem. Cal. 5-partitus. *Cor.* 0. *Pist.* 1. *Sem.* 1.

Sp. Ch. F. foliis palmatis.

THE Fig-tree is covered with smooth brown bark, and sends off many spreading branches: the leaves are large, succulent, smooth, irregularly divided into five lobes, of a deep green colour, and stand upon strong footstalks. The fruit, in its early stage, serves as the common receptacle, and contains upon its inner surface all the florets, which are both male and female; the former has the calyx (proper) divided into three segments, which are lance-shaped, erect, and equal: there is no corolla: the filaments are

Ficus Carica.

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three, bristly, of the length of the calyx, and furnished with double antheræ. The calyx (proper) of the *female flower* is divided into five segments, which are pointed, and nearly equal: there is no corolla: the germen is oval: the style is tapering, inflexed, and furnished with two pointed reflexed stigmata: the calyx is oblique, and contains in its bosom a roundish compressed seed. It is a native of the south of Europe, and commonly produces its flowers in June and July.

From history, both sacred and profane, the Fig-tree appears to have been known in the most early times. It has been long cultivated in England, and if screened from the north-east winds, commonly ripens its fruit here. The Fig, which has always been found a wholesome food, was by the ancients[a] ripened or brought to perfection by caprification; a practice which in some countries is still continued.[b] It had been observed, that the fruit of this tree frequently withered and dropped off before it arrived at a state of maturity, and upon examination it was discovered that those figs succeeded best which had been perforated by certain winged insects, which therefore were supposed to be instrumental in ripening the fruit. This gave rise to caprification, which formerly consisted in tying near the young figs the fruit of the wild fig tree, in which the flies above mentioned breed in abundance, and these insects, upon acquiring sufficient strength, issue from the wild fruit, and by penetrating the young figs produce the effect intended. That this insect, which by the ancients was called Psenes, or Culex, and by Linnæus, Cynips Psenes, produced this desirable effect, is generally admitted; but how it is to be explained has been the subject of some dispute.

To prevent ripe Figs from running into putrefaction, it is usual to dry them; which may be done either by the heat of the sun,

[a] See *Theophrastus*, *Suidas*, *Pliny*, and others.

[b] Caprification, as practised at some of the Archipelago Islands, when visited by Tournefort, appears to be a very curious but troublesome business. See *Tournefort*, *Voyage du Levant*, *vol. i. p.* 130.

or by means of an oven: the latter way is preferred, especially when the fruit has been caprified, as the larva of the cynips is destroyed by the heat. The best figs are imported from the southern parts of Europe in small chests, and are compressed into a circular form, of a yellowish colour, and filled with a viscid sweet pulp, in which are lodged numerous small yellow lenticular seeds. The surface of the Figs is commonly covered with a saccharine matter, which exudes from the fruit, and hence they have been named *Caricæ pingues*, or fat Figs.

The recent fruit, completely ripe, is soft, succulent, and easily digested, unless eaten in immoderate quantities; when it is apt to occasion flatulency, pain of the bowels, and diarrhœa.[c] The dried fruit is pleasanter to the taste, and is more wholesome and nutritive. Figs are supposed to be more nutritious, by having their sugar united with a large portion of mucilaginous matter, which, from being thought to be of an oily nature, has been long esteemed an useful demulcent and pectoral; and it is chiefly with a view to these effects that they have been medicinally employed.

Figs are directed by the London Pharm. in the decoctum hordei compositum, and in the electuarium lenitivum. Externally applied they are supposed to promote the suppuration of tumours, and hence have a place in maturating cataplasms; with this intention they are also sometimes used by themselves, as warm as they can easily be borne, to phlegmons of the gums, and other parts where a poultice cannot conveniently be applied.

[c] *Murray, App. Med. vol. iv. p. 585.*

Daphne Mezereum

Published by W. Phillips. Jan.ʸ 1.ˢᵗ 1810.

ORD. XLII. VEPRECULÆ.

(Dim. from *vepres*, a briar, or bramble.)
Plants somewhat resembling a briar.

DAPHNE MEZEREUM. MEZEREON.

SYNONYMA. Mezereum. *Pharm. Lond. & Edin.* Thymelæa spica cylindrica, superne foliosa. *Hal. Stirp. Helv.* n. 1024. Chamelæa Germanica. *Dodon. Purg.* p. 130. Chamelæa Germanica sive Mezereon. *Gerard. Hist.* 1402. *Park.* 201. *Raii Hist.* 1587. Laureola folio deciduo, flore purpureo; officinis Laureola fœmina. *Bauh. Pin.* 462. Daphnoides. *Camer. Epit.* 937. Daphne floribus sessilibus, infra folia ellip-tica lanceolata. *L. Fl. Lap.* 105. Daphne Mezereum, *Flor. Dan.* 268. *Withering's Bot. Arrang.* 402.

* Varietates sunt,

α Floribus rubris.

β Thymelæa Lauri folio deciduo, flore albo, fructu flavescente. *Du Hamel Arb.* 2. p. 325. n. 4. *Du Roi Hort.* 1. p. 213. Vide *Hort. Kew.*

Class Octandria. *Ord.* Monogynia. *L. Gen. Plant.* 485.

Ess. Gen. Ch. *Cor.* 4-fida corollacea marcescens, stamina includens. *Bacca* 1-sperma.

Sp. Ch. D. floribus sessilibus ternis caulinis, foliis lanceolatis deciduis.

* Dr. Russel found no difference in the effects of these varieties, by the trials he made with the rind, which is the only part of the root now in use.

THE Mezereon is a hardy shrub, which usually grows to the height of five or six feet, and sends off several branches; the exterior bark is smooth, and of a grey colour; the root is of a fibrous texture, of a pale colour, and covered with smooth olive-coloured bark; the leaves are few, tender, lance-shaped, sessile, deciduous, and appear at the terminations of the branches after the flowers are expanded; the flowers surround the branches in thick clusters, they are sessile, monopetalous, tubular, having the limb divided into four oval spreading segments, commonly of a purple colour; the stamina are eight, alternately shorter, and concealed within the tube of the corolla; the style is very short, the stigma flat, and the germen, which is oval, becomes a reddish berry, containing a round seed. This shrub is a native of England, though not very common. It is said to grow plentifully in some woods near Andover in Hampshire, and also about Laxfield in Suffolk; but it is generally cultivated in gardens, on account of the beauty and earliness of its flowers, which appear in February and March.

This plant is extremely acrid, especially when fresh, and if retained in the mouth excites great and long continued heat and inflammation, particularly of the throat and fauces; the berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man,[a] but to dogs,[b] wolves, foxes,[c] &c. The bark and berries of Mezereon, in different forms, have been long externally used to obstinate ulcers and ill-conditioned sores. In France the former is strongly recommended as an application to the skin, which under certain management[d] produces a

[a] Mulierculæ ruri baccas Coccumgnidii propinant in morbis rebellibus, sæpe effectu deleterio. Bergius M. M. p. 307. A woman gave twelve grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately. Wither. l. c. As the acrimony of these berrries is not immediately perceived upon being tasted, the ignorant and unwary are the more easily betrayed to swallow them.

[b] Haller l. c. [c] Lin. Fl. Lap. p. 105.

[d] As some may wish to try this practice, which is unknown to this country, and promises beneficial effects in several complaints, we shall briefly recite the usual mode in which it has been conducted:—A square piece of the recent bark, about

continued serous discharge, without blistering; and is thus rendered useful in many chronic diseases of a local nature, answering the purpose of what has been called a perpetual blister, while it occasions less pain and inconvenience.

In this country the Mezereon is principally employed for the cure of some syphilitic complaints, and in this way Dr. Donald Monro was the first who gave testimony of its efficacy in the successful use of the Lisbon diet drink.[e] A few months after this, several cases were published by Dr. Russel, then physician to St. Thomas's Hospital, fully establishing the utility of the cortex mezerei in venereal nodes.[f] He says, "the disease for which I principally recommend the decoction of mezereon root as a cure, is the node, that proceeds from a thickening of the *membrane* of the bones, which appears to be the cause of the greatest part of those tumours, at least when recent.—In a thickening of the periosteum from other causes I have seen very good effects from it." But in the nocturnal pains, accompanying syphilis, unless occasioned by the node itself, he found it necessary to join a solution of sublimate to the decoction.[g] We may also remark,

an inch long, and three quarters of an inch broad, macerated a little in vinegar, is applied to the skin, over which is bound a leaf of ivy or plantane. This application is at first renewed night and morning till it cauterizes the part and brings on a serous discharge, when a renewal of the bark once in 24 hours is found sufficient to continue the issue for any length of time. By means of suitable plasters, we conceive that it might be applied behind the ears to relieve the eyes, and on a larger scale prove an useful practice in sundry diseases.—It must be observed however, that it sometimes produces cutaneous eruptions, which Bergius attributes to the absorption of the acrid particles of the bark. l. c. vide Essai sur l'usage & les effets de l'écorce du Garou.

[e] Ess. & observ. phis. & lit. p. 402. vol. 3.

[f] Med. Observ. & Inquir. vol. 3. p. 189.

[g] Dr. R. first joined sarsaparilla to the mezereon, but afterwards used the following only:

℞ Cort. rad. Mezerei ℥j

Aq. fontan. cong. iss.

Coc. ad cong. j sub fin. addend. rad. glycyrrhiz. incis. ℥j. dos. lbss quater in die.

And by this many of the patients were entirely cured without ever taking mercury.

that Dr. R. never found the decoction to increase any of the natural evacuations. Dr. Cullen observes, that " Dr. Home has not only found this decoction to cure scirrhous tumours, which remain after the lues venerea, and after the use of mercury, but that it healed also some scirrhous tumours from other causes; and that he has employed it in several cutaneous affections, and sometimes with success."[h]

The considerable and long continued heat and irritation that is produced in the throat when Mezereon is chewed, induced Dr. Withering to think of giving it in a case of difficulty of swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear it, and in about a month recovered her power of swallowing. This woman had suffered the complaint three years, and was greatly reduced, being totally unable to swallow solids, and liquids but very imperfectly.[i]

[h] M. M. vol. 2. p. 215.

[i] l. c.

Piper nigrum.

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ORD. XLIII. PALMÆ.

ORD. XLIV. PIPERITÆ.

(From *Piper*, Pepper.)

Plants acrid, or Peppery to the taste.

PIPER NIGRUM. BLACK PEPPER.

SYNONYMA. Piper nigrum. *Pharm. Lond. & Edinb.* *Gerard Emac.* p. 1538. *Park. Theat.* p. 1603. Piper rotundum nigrum. *Bauh. Pin.* p. 411. *Raii Hist.* p. 1341. *Plukenet. Almag.* p. 297. *t.* 437. *fig.* 1. Piper nigrum. *Camel. Phil. Trans. vol.* 24. *p.* 1773. Molago codi. *Hort. Malab. vol.* 7. *p.* 23. *tab.* 12. Pepper Plant. *Marsden's History of Sumatra, p.* 105. *Ic. Miller's Illustr.*

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. *Cal.* 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis ovatis septemnerviis glabris, petiolis simplicissimis.

THE root is perennial: the stems are round, smooth, jointed, swelling towards each joint, woody, slender, branched, scandent, or trailing, and from eight to twelve feet in length: the leaves are ovate, entire, smooth, seven-nerved, of a dark green colour, and stand at the joints of the branches upon strong sheath-like footstalks: the flowers are small, white, and produced in terminal

spikes: there is no regular calyx nor corolla: the filaments also are wanting: the two antheræ are roundish, and placed oppositely at the base of the germen: the germen is ovate, upon which stand three rough stigmata: there is no style: the fruit is a single-valved berry, containing one round seed.

This species of Pepper grows spontaneously in the East Indies, but does not arrive at perfection without the aid of culture. It is cultivated with such success at Malacca, Java, and especially at Sumatra, that from these islands Pepper is exported to every part of the world, where a regular commerce has been established.

According to Mr. Marsden,[a] the ground chosen by the Sumatrans for a Pepper garden, is marked out into regular squares of six feet, the intended distance of the plants, of which there are usually a thousand in each garden. The next business is to plant the chinkareens, which serve as props to the Pepper vines, and are cuttings of a tree of that name, which is of quick growth. When the chinkareen has been some months planted, the most promising perpendicular shoot is reserved for growth, and the others lopped off; this shoot, after it has acquired two fathoms in height, is deemed sufficiently high, and its top is cut off. Two Pepper vines are usually planted to one chinkareen, round which the vines twist for support; and after being suffered to grow three years (by which time they acquire eight or twelve feet in height) they are cut off about three feet from the ground, and being loosened from the prop are bent into the earth in such a manner that the upper end is returned to the root. This operation gives fresh vigour to the plants, and they bear fruit plentifully the ensuing season. The fruit, which is produced in long spikes, is four or five months in coming to maturity: the berries are at first green, turn to a bright red when ripe and in perfection, and soon fall off if not gathered in proper time. As the whole cluster does not ripen at the same time, part of the berries would be lost in waiting for the latter ones; the Sumatrans therefore pluck the bunches as soon as any of

[a] See *l. c. p.* 107.

the berries ripen, and spread them to dry upon mats, or upon the ground. By drying they become black, and more or less shrivelled, according to their degree of maturity. These are imported here under the name of *black pepper*.

White pepper[b] is the ripe and perfect berries stripped of their outer coats: for this purpose the berries are steeped for about a fortnight in water, till by swelling their outer coverings burst; after which they are easily separated, and the pepper is carefully dried by exposure to the sun. Pepper which has fallen to the ground over-ripe loses its outer coat, and is sold as an inferior kind of white pepper.

Of these pungent hot spices the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They differ from most of the other spices in this, that their pungency resides not in the volatile parts, or essential oil, but in a substance of a more fixed kind, which does not rise in the heat of boiling water.[c] This fixed substance is probably the resinous part: the aromatic odorous matter seems to depend upon the essential oil. The distilled oil smells strongly of the pepper, but has very little acrimony; the remaining decoction, inspissated, yields an extract of considerable pungency. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

Some have supposed Pepper to be less heating to the system than other aromatics; and the learned Gaubius asserts, that on taking it in large quantities he never found it to warm his stomach, nor to increase the frequency of his pulse.[d] But Dr. Cullen affirms, that when he took this spice, even in a small quantity,

[b] White Pepper was formerly thought to be a different species from the black, and was sold at the sales of the East India Company (who have the monopoly of the Sumatran pepper trade) for treble the price of the black. *Marsden, l. c.*

[c] Gaubius found that the Pepper required to be boiled forty-three times in fresh quantities of water before its whole pungency was extracted. *Adversar. p.* 52.

[d] *L. c. p.* 73.

it always felt warm on his stomach, and heated his whole body; and he thinks it was owing to the frequent use of Pepper that Gaubius did not experience the same effects.[e]

Black Pepper is generally used as an aromatic and stimulant. It has been successfully employed in some cases of vertigo,[f] and paralytic and arthritic disorders.[g] Given in large doses it has been found a remedy for intermittents; but its use in these has, in some instances, produced fatal consequences.[h]

[e] *Mat. Med. vol.* 2. *p* 208.

[f] *Hoffman. Rem. domest.* §. 26. and others.

[g] *Obs. phys. & lit. vol.* 3. *p.* 449. [h] See *Act. Soc. Med. Hav. vol. i. p.* 386.

PIPER LONGUM. LONG PEPPER.

SYNONYMA. Piper longum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1539. *Park. Theat. p.* 1604. *Raii. Hist. p.* 1343. *Rumph. Amb. vol.* 5. *p.* 333. *t.* 116. *f.* 2. *Pis. Mant. Aromat. p.* 182. *Clus. Exot. p.* 20. 183. Piper longum orientale. *Bauh. Pin. p.* 412. Piper longum pistolochiæ foliis absque pediculis, maderaspatanum. *Pluk. Alm. p.* 297. *t.* 104. *f.* 4. Cattu-tripali. *Rheed. Hort. Mal. V.* 7. *p.* 27. *t.* 14.

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. *Cal.* 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis cordatis petiolatis sessilibusque.

THE root is perennial: the stems are shrubby, round, smooth, branched, slender, and climbing; but do not rise to any considerable height: the leaves differ much in size and form; they are commonly heart-shaped, pointed, entire, smooth, nerved, of a deep green colour, and stand alternately upon footstalks: the

Piper longum

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Acorus Calamus

Published by W. Phillips Feb.ʳʸ 1ˢᵗ ...

flowers are small, and produced in short dense terminal spikes, which are nearly cylindrical: the parts of inflorescence, though less distinct, correspond with the description given of the former species. It is a native of the East Indies, especially Java, Malabar, and Bengal.

The berries, or grains, are very small, and lodged in a pulpy matter; like those of the black pepper they are first green, and become red when ripe. This fruit is hottest to the taste in its immature state, and is therefore gathered while green, and dried by the heat of the sun, when it changes to a blackish or dark grey colour.[a]

It is observed by Dr. Cullen, that Long pepper has precisely the same qualities with those of black, only in a weaker degree:* Bergius also judges black pepper to be hotter than this species; an opinion which appears to us unfounded, and the contrary is asserted by Lewis and Murray: the latter says, "Ad meum aliorumque quorundam sensum, in lingua acrius et calidius adhuc est Piper longum reliquis dictis speciebus."[b]

[a] *Rumph. l. c.*

* *Mat. Med. vol. ii. p.* 209. [b] *App. Med. vol.* 5. *p.* 36.

ACORUS CALAMUS. SWEET FLAG, Or ACORUS.

SYNONYMA. Calamus aromaticus. *Pharm. Lond. & Edinb.* Acorus verus, sive Calamus aromaticus officinarum. *Bauh. Pin. p.* 34. *Park. Theat. p.* 140. *Raii Hist. p.* 1313. *Synop. p.* 437. Acorus verus, officinis falsò Calamus. *Gerard. Emac. p.* 62. Acorus. *Hall. Stirp. Helv. n.* 1307. Acorus Calamus. *Hudson. Flor. Ang. p.* 147. *Withering. Bot. Arr. p.* 357. *Relhan. Flor. Cant. p.* 140. Thach xuog bô. *Flor. Cochin. p.* 208.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 434.

Ess. Gen. Ch. *Spadix* cylindricus, tectus flosculis. *Cor.* 6-petalæ, nudæ. *Stylus* nullus. *Caps.* 3-locularis.

Sp. Ch. A. scapi mucrone longissimo foliaceo. *Hort. Kew.*

THE root is perennial, horizontal, crooked, pointed, fibrous, somewhat compressed, about an inch thick, externally yellowish, with a greenish tinge, rugose, internally whitish, and of a spongy texture: the leaves are long, sword-shaped, sheathing one another, and commonly undulated on one side: the flowers are small, numerous, and produced on a spadix or conical spike at the edge of the leaf: there is no calyx: the corolla is composed of six petals, which are small, membranous, concave, and appear truncated: the six filaments are thick, somewhat longer than the petals, and furnished with double antheræ: the germen is gibbous, oblong, without a style, and terminated by a pointed stigma: the capsule is oblong, triangular, and divided into three cells, containing numerous oval seeds.

According to Linnæus, this is the only true aromatic plant indigenous to northern climates. It is common in many parts of England, and usually grows in stagnant waters, and the sides of rivers, producing its flowers in May and June.

The roots of Calamus aromaticus have been long medicinally employed,[a] and were formerly imported here from Asia and the Levant; but those of English growth are now very generally substituted, and found to be little or nothing inferior to the exotic sort, which is merely a variety of the same species.[b]

The root, in its dried state, has a moderately strong aromatic smell, and a warm pungent bitterish taste. Water is found to extract the bitter matter of the root most completely, and rectified

[a] The virtues of Calamus aromaticus are noticed both by the Greeks and Arabians. See *Dios. L.* 1. *c.* 2. *Alpin. p.* 141.

[b] Vide. *Lin. Sp. Pl. p.* 462.

Arum maculatum

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spirit that of the aromatic. It imparts its virtues to water in distillation along with a small quantity of essential oil, amounting only to two ounces from fifty pounds of the root, according to Hoffman; but Neuman and Cartheuser obtained the oil in a much larger proportion.

The root of Calamus, though not heating like the spices, manifests to the taste considerable pungency, and a moderate share of bitterness, and has therefore been deemed useful as a warm stomachic, and was formerly much used here in combination with the more simple bitters, which, by this addition, were rendered more grateful and carminative. It has been recommended in vertigo, proceeding from a vitiated stomach,[c] and in intermittent fevers, which we are told were cured by this root, after the bark had failed.[d] We are also informed of its efficacy in scorbutic and hæmorrhagic complaints;[e] but to this, little credit will be given, and much less to the supposed elexipharmic power of Calamus, though it is an ingredient in the theriaca and mithridate of dignified memory, and still is much used in eastern countries as a preservative against contagion.

[c] *De Mayerne. Prax. Med. p.* 59. [d] *Act. Societ. Med. Havn. vol. p.* 206.

[e] See *Murray App. Med. v.* 5. *p.* 42.

ARUM MACULATUM. COMMON ARUM, or WAKE-ROBIN.

SYNONYMA. Arum. *Pharm. Lond. & Edin.* Arum foliis sagittatis, spatha recta, clava cylindrica. *Hal. Stirp. Helv.* n. 1302. Arum minus. *Camerar. Epit.* p. 367. Arum maculatum et vulgare non maculatum. *Bauh. Pin.* 195. Arum vulgare maculatum et non maculatum. *Park.* 372. Arum vulgare. *Gerard. H.* 834. *Raii Hist.* 1208. *Wake-Robin Cuckow-pint. Raii Synop.* 266. Arum Maculatum. *Flor. Dan.* 505. *Flor. Lond. Withering's Bot. Arrang.* 1012. *Relhan's Flor. Cant.* 342.

Varietates sunt.

α Arum vulgare non maculatum. *Bauh. Pin.*
β Arum maculatum, maculis candidis, vel nigris. *Bauh. Pin.*
γ Arum *italicum,* foliis hastatis acutis, petiolis longissimis, spatha maxima erecta. *Mill. Dict.*

Class Gynandria. *Ord.* Polyandria. *L. Gen. Plant.* 1028.

Ess. Gen. Ch. *Spatha* monophylla, cucullata. *Spadix* supra nudus, inferne femineüs, medio stamineus.

Sp. Ch. A. acaule, foliis hastatis integerrimis, spadice clavato.

THE root is perennial, tuberous, about the size of the thumb, sending off many long simple fibres: the leaves are commonly three or four, growing from each root; these are arrow-shaped, of a deep green or purplish colour, beset with many veins and dark spots, and stand upon long grooved and somewhat triangularly shaped footstalks; the flower stalk is very short and channelled; the calyx is a sheath of one leaf, large, oval, nerved, and enclosing the spadix, which is round, club-shaped, fleshy, above of a purple colour, below whitish, standing in the centre of the sheath, and supporting the parts necessary to fructification: on tracing it towards the base we first discover the nectaries, or several oval corpuscles, which are terminated by long tapering points; next to these are placed the antheræ, which are quadrangular, united, and of a purple colour; under these we find again more nectaries, and lastly the germina, which are very numerous, round, without styles, and crowned with small bearded stigmata. This curious species of inflorescence displays itself early in spring, but the berries do not ripen till late in the summer, when they appear in naked clusters, of a bright scarlet colour, making a conspicuous appearance under the hedges, where they commonly grow.

[Arum, by a modern botanist, is arranged under the class Monœcia.]

The root is the medicinal part of the plant, which in a recent and lactescent state is extremely acrimonious, and upon being chewed excites an intolerable sensation of burning and pricking in the tongue, which continues for several hours: when cut in slices and applied to the skin, it has been known to produce blisters. This acrimony, however, is gradually lost by drying, and may be so far dissipated by the application of heat, as to leave the root a bland farinaceous aliment;[a] its medical efficacy therefore resides wholly in the active volatile matter, and consequently the powdered root must lose much of its power on being long kept, a circumstance which very properly caused the omission of the Pulvis ari compositus in the last edition of our Pharmacopœia. Lewis says, "the fresh and moderately dried roots were digested in water, in wine, in proof spirit, and in rectified spirit, with and without heat: the liquors received no colour, and little or no taste. In distillation neither spirit nor water brought over any sensible impregnation from the Arum. The root, nevertheless, loses in these operations almost the whole of its pungency."[b] The qualities of this root are thus enumerated by Bergius: "Virtus *recent. siccatæ:* stimulans, aperiens, incidens, diuretica; *recentis* vehementissima; *annosæ* ‖ nutriens."[c]—Dr. Cullen[d] seems to consider it as a general stimulant, not only exciting the activity of the digestive powers, where they happen to be languid, but stimulating the whole system; in proof of this he observes, that it has been useful in intermittent fevers. Arum, by ancient writers, is

[a] In this state it has been made into a wholesome bread. It has also been prepared as starch. The root, dried and powdered, is used by the French to wash the skin with, and is sold at a high price, under the name of *Cypress Powder:* It is undoubtedly a good and innocent cosmetic. Withering l. c.———These roots are said to possess a saponaceous quality, and have been used in washing linen, to supply the place of soap. Raii Hist. p. 1208.

[b] Lewis M. M. 119. [c] M. M. 722. [d] M. M. vol. ii. 212.

‖ Tales radices Ari annosæ vix acres sunt, prout supra monuimus, & quæ restare potest acrimonia, mitigatur penitus ebullitione. Cæterum plures Ari species apud varias gentes esculentæ sunt. Nutriunt omnes suo farinoso. Bergius, l. c.

much commended, both as an external and as an internal remedy, and is said that " Ratione particularum tenuium & volatilium mucum viscidum & spissum ventriculi & intestinorum parietibus adhærentem potenter incidit, attenuat, atque resolvit;" and was prescribed in all that numerous class of diseases formerly supposed to proceed a succorum lentore. Bergius considers it useful in Colluvies pituitosa, Anorexia, Cephalæa sympatica,[e] Asthma humorale, Cachexia, Febris intermittens. Arum is certainly a very powerful stimulant, and by promoting the secretions may be advantageously employed in cachectic and chlorotic cases, in rheumatic affections, and in various other complaints of phlegmatic and torpid constitutions; but more especially in a weakened or relaxed state of the stomach, occasioned by the prevalence of viscid mucus. If this root is given in powder, great care should be taken that it be young and newly dried, when it may be used in the dose of a scruple or more twice a day: but in rheumatisms and other disorders requiring the full effects of this medicine, the root should be given in a recent state, and to cover the insupportable pungency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion, with gum arabic and spermacæti, increasing the dose from ten grains to upwards of a scruple three or four times a day; in this way " it generally occasioned a sensation of slight warmth about the stomach, and afterwards in the remoter parts manifestly promoted perspiration, and frequently produced a plentiful sweat. Several obstinate rheumatic pains were removed by this medicine, which is therefore recommended to further trial."

[e] Bergius speaks highly of the efficacy of Arum in these headachs, which were of the most violent kind, and resisted all the means he employed, till he used the powder of this root, which never failed to relieve them.

Amomum Zingiber.

Published by W. Phillips, Feb.y 1.st 1820.

ORD. XLV. SCITAMINEÆ.

(From *Scitamentum*, meat of a pleasant taste.)
All this order consists of beautiful exotics.

AMOMUM ZINGIBER. NARROW-LEAVED GINGER.

SYNONYMA. Zingiber, *Pharm. Lond. & Edinb.* Amomum Zingiber, *Jacquin Hort. Vindob. vol.* 1. *t.* 75. Zingiber, *Browne's Jam.* 119. *Sloane's Jam.* 1. *p.* 163. Inschi. *Rheed. Mal.* Z. angustiori folio, &c. *Pluk. Alm.* Zingiber Majus, *Rumph. Amb.* 5. *p.* 156. Ζιγγιβερις, *Dioscorid.* Ζιγγιβερ, *Galen.*

Class Monandria. *Order.* Monogynia. L. *Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapo nudo, spica ovata.

THE root is perennial, firm, knotted, of a compressed roundish form, beset with transverse rugæ, covered with ash coloured bark, partly of a purplish tinge, and sends forth many long fibres and off-sets; the internal substance of the younger roots is softish, fleshy, and greenish; of the older, it is compact, fibrous, whitish, and when powdered has a yellowish appearance: the stalks are about three feet high, round, inclosed in an imbricated membraneous sheathing; the leaves are sword-shaped, smooth, pointed, entire, and stand alternately upon the sheathes of the stalk; the

scapus, or flower-stem, rises about a foot high, it is erect, round, alternately sheathed like the stalks, without leaves, and terminates in an oval, obtuse, bracteal, imbricated spike; the corollæ, or flowers, appear between the bracteal scales of the spike, two or three at a time; they are of a dingy yellow colour, monopetalous, tubular, and cut into three unequal, acute, segments, which have their points curled backwards; the nectary occupies the faux or mouth of the tube of the corolla, and has a bilabiated appearance; the lip is obtusely trifid, of a reddish purple colour, and marked with many yellowish dots: but what seems like the upper lip is the stamen, or filament, which is convex outwardly, concave within, and gradually tapers from its base to its apex, where it is coloured like the nectary. The antheræ are two, oblong, whitish, and lodged together in the cavity of the stamen: the style is long and filiform: the stigma obtuse and villous: the capsule is three-celled, and contains many seeds.

The Ginger plant is a native of the East Indies,[a] and is said to grow in the greatest perfection on the coast of Malabar and Bengal;[b] but it is now plentifully cultivated in the warmer parts of America,‡ and in the West-India islands, from whence chiefly it is imported into Europe. In 1731, it was first introduced into

[a] The following observation, made by Rumphius, seems however to deserve some notice: Quondam omne Zingiber petebatur ex illa Africæ parte, quæ mari rubro adjacet tam intra quam extra illud, tum Arabia Trogloditica dicta, cujus incolæ hodie ab Arabibus vocantur *Zingi* seu *Zangi* h. e. nigri seu adusti Æthiopes, unde & nomen Zingiber seu Zingibel ortum duxit, ac si discerctur, dadices ex Æthiopia, atque hinc jam innotuit antiquis etiam scriptoribus, uti *Dioscorid. lib.* 2. *cap.* 154. *Galeno. lib.* 6. *med. simp.* ubi dicit Zingiber deferri ex Barbaria, per quam vocem intelligenda est orientalis Africæ plaga. vide Herb. Amboin. vol. v. p. 157. [b] Rumph. l. c.

‡ India Orientali per Hispanos ac præsertim per Franciscum de Mendosa, filium imperatoris Anthonii de Mendosa cum aliis aromaticis herbis in novam Hispaniam deductum est, *teste Monardo simp. Medic. cap.* 18. Rumphius, l. c.—Upon the death of Mendosa, these plants were neglected, and all lost but the Ginger. Ginger is said by some to grow wild in America, but Jacquin says, "Sylvestrem in America non vidi."

this country by Mr. P. Miller,[c] and is still carefully cultivated in the dry stoves of the curious. The flowers have a sweet fragrant smell, and the leaves and stalks, especially when bruised, also emit a faint spicy odour, but the hot acrid aromatic taste is entirely confined to the root.

"In Jamaica Ginger attains its full height, and flowers about August or September, and fades about the close of the year. When the stalks are entirely withered, the roots are in a proper state for digging: this is generally performed in the months of January and February. After being dug, they are picked, cleansed, and gradually seethed, or scalded in boiling water; they are then spread out, and exposed every day to the sun, till sufficiently dried; and after being divided into parcels of about 100 lb. weight each, they are packed in bags for the market: this is called the Black Ginger."[d] White Ginger is the root of the same plant, but instead of the roots being scalded, by which they acquire the dark appearance of the former, each root is picked, scraped, separately washed, and afterwards dried with great care; of course more than a double expense of labour is incurred, and the market price is proportionably greater.* Black Ginger loses part of its essential oil by being thus immersed in boiling water;[e] on this account it is less useful for medical and other purposes than the white, which is always good when perfectly sound and free from worm-holes: but that imported from the East-Indies is stronger than any we have from Jamaica. Ginger gives out its virtues perfectly to rectified spirit, and in a great measure to water. According to Lewis,[f] its active principles are of a remarkably

[c] Aiton's Hort. Kewen.

[d] Long's History of Jamaica, p. 700.

* Rumphius remarks also, "Rubræ speciei radices crassiores sunt, magisque nodosæ, externe plerumque cinerea primum, atque sub hac purpurea rubente obductæ pellicula, uti & ipsarum caro ad oras rubet, &c. l. c.

[e] We mention this on the authority of Jacquin, vide Hort. Vindob. vol. 1, No. 75.

[f] Mat. Med. Ackin's edition, p. 678.

fixed nature; for a watery infusion of this root being boiled down to a thick consistence, dissolved afresh in a large quantity of water, and strongly boiled down again, the heat and pungency of the root still remained, though with little or nothing of its smell. Ginger is generally considered as an aromatic, less pungent and heating to the system, than might be expected from its effects upon the organs of taste. Dr. Cullen thinks, however, that there is no real foundation for this remark.[g] It is used as an antispasmodic and carminative. The cases in which it is more immediately serviceable, are flatulent colics, debility and laxity of the stomach and intestines, and in torpid and phlegmatic constitutions to excite brisker vascular action. It is seldom given but in combination with other medicines. In the Pharmacopœias it is directed in the form of a syrup and a condiment,[h] and in many compositions it is ordered as a subsidiary ingredient.

[g] Cullen's Mat. Med. vol. ii. p. 206.

[h] For this purpose the root should not be older than four or five months. Of the very young roots the aromatic taste is peculiarly grateful. "Junior recens crudaque radix in Martinica in mensis apponitur, parvaque ejusdem portio solet cum bubula elixa comedi. Est etiam tunc insigniter acris, sed aroma longe gratius possidet, quam exsiccata." Jacquin. l. c.

AMOMUM REPENS, seu CARDAMOMUM. — OFFICINAL CARDAMOM.

SYNONYMA. Cardamomum minus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1547. *Park. Theat. p.* 1576. Cardamomum simpliciter in officinis dictum. *Bauh. Pin. p.* 414. Cardamomum cum siliquis seu thecis brevibus. *J. Bauh. Hist. vol. ii. p.* 205. Amomum repens, seu Le Cardamome de la Côte de Malabar. *Sonnerat Voyage aux Indes oriental. tom. ii. p.* 240. *tab.* 136. Alia species est Amomum Cardamomum L. scapo simplicissimo brevissimo.

Amomum repens seu Cardamomum.

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Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapis ramosis elongatis decumbentibus.
Smith, Syst. Veg. ined.

THE root is perennial: the stalks are simple, sheathy, erect, grow to a considerable height, and beset with leaves, which are lance-shaped, large, entire, acutely pointed, ribbed, and stand alternately upon the sheaths of the stalk: the flower stalk proceeds immediately from the root, and creeps along the ground: it is commonly about a foot and a half in length, articulated, in a zig-zag form,* and producing numerous flowers, which are placed upon divided stipulated peduncles, arising from the articulations: the calyx is small, and obtusely divided into three teeth at the margin: the corolla is monopetalous, composed of a narrow tube, divided at the mouth into four segments; of these the three outermost are long, narrow, uniform, and of a straw colour, but the central one, which has been considered as a nectary, is large, broad, concave, of an irregular oval shape, and marked with violet coloured stripes: the filament is membranous, strap-shaped, shorter than the segments of the corolla, to the top of which the anthera is joined: the germen is roundish, and placed below the insertion of the tube of the corolla: the style is filiform, of the length of the filament, and supplied with an obtuse stigma: the capsule is triangular, divided into three cells and valves, containing several small dark coloured seeds.

This plant is a native of the East Indies, and according to Sonnerat grows abundantly on the Malabar Coast:[a] it differs considerably from the Amomum Cardamomum of Linnæus, as appears

* In a specimen of this plant, which we have seen in the Herbarium of Sir Joseph Banks, this appearance is very remarkable.

[a] L. c.

by the specific character he has given it, and the figures to which it is referred to in his Species Plantarum.[b] Sonnerat, who first discovered the Amomum repens, and on whose authority it is considered to afford the seeds officinally known by the name of Cardamomum minus, informs us, that this plant abounds so plentifully on a certain mountain on the Coast of Malabar, that it is called the Mountain of Cardamoms, from which all India is supplied with the seeds.

The Cardamoms imported into Europe have been distinguished by the names Cardamomum majus, medium, & minus; the distinction depending upon the respective sizes of their seeds; but the different species from which the two former are said to have been produced, are so imperfectly described, and their botanical histories so confused, that we are unable to give any satisfactory information concerning them; and whether the Amomum verum of the ancient Greek writers is referable to our Cardamom, seems also equally uncertain.

The seeds of the Cardamomum minus, which are now generally preferred for medicinal purposes, are brought to us in their capsules, or husks, by which they are preserved; for they soon lose a part of their flavour when freed from this covering. "Their virtue is extracted not only by rectified spirit, but almost completely by water also; with this difference, that the watery infusion is cloudy or turbid, the spirituous clear and transparent. Scarcely any of the aromatic seeds give out so much of their warmth to watery menstrua, or abound so much with gummy matter, which appears to be the principle by which the aromatic part is made dissoluble in water: the infusion is so mucilaginous, even in a dilute state, as hardly to pass through a filter."

"In distillation with water, a considerable quantity of essential oil separates from the watery fluid, of a pale yellowish colour, in smell exactly resembling the Cardamoms, and of a very pungent

[b] Elettari. *Hort. Malab. vol. ii. tab.* 5.
Rumph. *Amboin. vol. v. tab.* 65.

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Curcuma longa

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taste: the remaining decoction is disagreeably bitterish, and mucilaginous. On inspissating the tincture made of rectified spirit, a part of the flavour of the Cardamoms arises with the spirit; but the greatest part remains behind, concentrated in the extract, which smells moderately of the seeds, and has a pungent aromatic taste, very durable in the mouth, and rather more grateful than that of the seeds in substance."[c]

Cardamom seeds, on being chewed, impart a glowing aromatic warmth, and grateful pungency: they are supposed gently to stimulate the stomach, and prove cordial, carminative, and antispasmodic, but without that irritation and heat which many of the other spicy aromatics are apt to produce. We are told by Sonnerat, that the Indians use it much, and believe it to strengthen the stomach, and assist digestion. Physicians, however, consider Cardamoms merely as an aromatic, and prescribe them in conjunction with other medicines, which they are intended to correct or assist.

Simple and compound spirituous tinctures of these seeds are directed by the Pharmacopœias; they are also ordered as a spicy ingredient in many of the officinal compositions.

[c] Lewis, *Mat. Med. p.* 194.

CURCUMA LONGA. LONG-ROOTED TURMERIC.

SYNONYMA. Curcuma. *Pharm. Lond. & Edinb.* Cannacorus radice crocea, sive Curcuma officinarum. *Tourn. Inst. p.* 367. Curcuma longa. *König, in Rez. Obs. bot. fasc.* 3. *p.* 72. Curcuma radica longa. *Zanon. Hist. Pl. ed. Mont. p.* 86. *tab.* 59. Curcuma domestica major. *Rumph. Herb. Amboin. tom.* 5. *p.* 162. *tab.* 67. Manjella-Kura. *Hort. Halab. tom.* 11. *p.* 21. *tab.* 11. Amomum Curcuma. *Jacquin, Hort. Vindob. tom.* 3. *p.* 5. *tab.* 4.

Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 6.

Ess. Gen. Ch. *Stamina.* 4-sterilia, quinto fertili.

Sp. Ch. C. foliis lanceolatis: nervis lateralibus numerosissimis.

THE root is perennial, tuberous, and furnished with strong fibres, externally brownish, and internally of a deep yellow colour: the leaves are radical, large, lance-shaped, obliquely nerved; at the bottom, vaginal, and closely embracing each other: the scapus, or flower stem, rises from the centre of the leaves; it is short, thick, smooth, and forms a spike of numerous bracteal imbricated scales, between which the flowers successively issue: the corolla is monopetalous, consisting of a narrow tube, divided at the mouth into three oval segments: the nectarium occupies the wide undersinus of the corolla, and is the most conspicuous part of the flower; it is of a flesh colour, petal-like, large, spreading, and cut into three divisions, of which the middlemost is the largest: the filaments are five, four of which are erect, slender, linear, contracted, sterile; the fifth is petal-formed, lodged within the nectarium, and cleft at the top, to which the anthera is adjoined: the germen is roundish, and placed below the corolla: the style is the length of the filament, and furnished with a simple hooked stigma: the capsule is roundish, three-celled, three-valved, and contains numerous small seeds.

Turmeric is a native of the East Indies, and common in the gardens of the Chinese; it grows abundantly in Malacca, Java, and Balega.[a] It was first cultivated in England by Mr. P. Miller in 1759.[b] The root of this plant has been long officinally known, and passed under different names, as Crocus indicus, Terra merita, &c. In its dried state, as imported here, it is various in shape; externally of a pale yellow colour, wrinkled, solid, ponderous, and the inner substance of a deep saffron or gold colour; its odour is somewhat fragrant, and to the taste it is bitterish, slightly acrid,[c]

[a] Vide König, Rumphius, and Bontius.

[b] *Hort. Kew.* [c] The Chinese use it as a sternutatory.

exciting a moderate degree of warmth in the mouth, and on being chewed it tinges the saliva yellow. It has been very generally employed for the purpose of dying,[d] and in eastern countries it is much used for colouring and seasoning of food.[e]

" This root gives out its active matter both to aqueous and spirituous menstrua. In distillation with water, it yields a small quantity of gold-coloured essential oil, of a moderately strong smell, and a pungent taste: the remaining decoction, inspissated, leaves a bitterish considerably saline mass. Rectified spirit elevates little or nothing of its virtue; all the active parts being left behind in the inspissated extract."[f]

This root has had the character of being a powerful aperient and resolvent: it has been commonly prescribed in obstructions of the liver, and other chronic visceral affections. The disease in which it has been thought most efficacious is the jaundice; but though the use of this root is highly recommended by several practical writers,[g] it is now very rarely employed; and we are told by Dr. Cullen, that the decoctum ad Ictericos of the Edinburgh Dispensatory, (Ed. 1756) " never had any other foundation than the doctrine of signatures in favour of the Curcuma and Chelidonium majus."[h]

[d] " This substance is very rich in colour, and there is no other which gives a yellow colour of such brightness; but it possesses no durability, nor can mordants give it a sufficient degree: common salt, and ammoniacal muriat, are those which fix the colour best, but they render it deeper." Hamilton's translation of Berthollet's *Elements of the Art of Dying*, vol. ii. p. 280. See also on this subject, Hellot, *L'art. de la Teint. p.* 406. and Pörner, *Chym. Versuche z. Nuz. der Farbekunst, vol. i.* 1. *Abh.* Scharffs *Recepte üb. versch. Gättungen. v. Farb.* 1. *St.*

[e] It enters the composition of the Curry powder which is now much used here.

[f] *Lewis, M. M.*

[g] Of these we may more particularly refer to Bontius, *(De Med. Indor. p.* 115.) F. Hoffman, *(Meth. Med.* in *Med. rat. tom. iii. p.* 542.) Coe, *(on Bileary Concret. p.* 285.)

[h] *Mat. Med. vol. i. p.* 25.

KÆMPFERIA ROTUNDA. ZEDOARY.

SYNONYMA. Zedoaria. *Pharm. Lond. & Edinb.* I. Zedoaria longa. II. Zedoaria rotunda. *Bauh. Pin. p.* 31. *Park. Theat. p.* 1612. *Raii. Hist. p.* 1340. *Gerard, Emac. p.* 1623. Malan-Kua. *Rheed. Hort. Malab. tom.* 11. *p.* 17. *tab.* 9.

Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 7.

Ess. Gen. Ch. *Cor.* 6-partita: laciniis 3 majoribus patulis, unica bipartita. *Stigma* bilamellatum.

Sp. Ch. K. fol. lanceolatis petiolatis.

THE root is perennial, tuberous, fleshy, compressed, externally of an ash colour, internally of a bluish grey: the flower stem is covered with sheaths, and rises very little above the ground: the leaves are large, radical, nearly elliptical, pointed, veined, and stand upon broad footstalks: the calyx is small and obscure: the corolla is monopetalous, consisting of a long slender conical tube, divided at the upper extremity into six parts, three of which are long, narrow, spreading, inserted below the others, of which two are oval, pointed, and erect; the remaining one is deeply cut into two obversely heart-shaped divisions, of a reddish colour, and beautifully striated with purple: there is but one filament, which is membranous, and notched at the end: the anthera is linear, doubled, entirely adherent, and scarcely rises above the tube of the corolla: the germen is roundish, and supports a style, which is about the length of the tube, furnished with a folded roundish stigma: the capsule is triangular, divided into three cells, and as many valves, and contains numerous small seeds.

On the authority of Linnæus, the Colleges of London and Edinburgh have referred the officinal Zedoary to this plant, which is a native of the East Indies. But Bergius informs us, that he received

Kæmpferia rotunda

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a specimen of the Zedoary plant from India, which, upon examination, was found to be a species of Amomum;[a] and it is observed by Murray, that this opinion receives additional weight by the description of Zedoary, or the *Indorum Tamogcansi*, given by Camellus.[b]

It seems no easy task to discover with any tolerable probability, whether this drug was used by the ancients or not; some have supposed it to be the Costus of Dioscorides, the Guiduar of Avicenna, the Zerumbet of Serapion.* But this we leave to those who are ready to decide upon what is merely conjectural.

The roots of Zedoaria, longa and rotunda, are both produced by the same species of plant, and are indiscriminately used in the shops; the former are brought to us in oblong pieces, about the thickness of the little finger, two or three inches in length, bent, rough, and angular; the latter are roundish, about an inch in diameter, of an ash colour on the outside, and white within.

"This root has an agreeable camphoraceous smell, and a bitterish aromatic taste. It impregnates water with its smell, a slight bitterness, a considerable warmth and pungency, and a yellowish brown colour: the reddish yellow spirituous tincture is in taste stronger, and in smell weaker, than the watery. In distillation with water it yields a thick ponderous essential oil, smelling strongly of the Zedoary, in taste very hot and pungent."[c]

Cartheuser, who ascribes the virtues of Zedoary to a camphoraceous volatile oil, considers it as a general remedy for most of the chronic diseases with which humanity is afflicted;[d] but as the cam-

[a] "Plantam habui ex Cochinchina, figuræ Rheedeanæ convenientem, lectam a Cl. Joanne de Loureyro & comparatam sub itinere Chinensi, Cl. Car. G. Exeberg, Centurione & navis Gubernatore, de scientia botanices bene merito." *Mat. Med. p.* 5. He calls it, *A. scapo nudo, spica laxa truncata;* and makes its synonyma to be, Kua. *Rheed. Malab.* 11. *p.* 13. *t.* 7. Tommon itam. *Rumph. Amb.* 5. *p.* 169. *Zedoaria Camell. Stirp. Luz. p.* 23.

[b] See *Raii, Hist. plant. vol.* 3. *in App.*

* See on this subject, S. G. Manitius. *De ætatibus Zedoariæ relatio. Dresd.* 1691.

[c] *Lewis, M. M. p.* 684. [d] Sect. xiv. §. 3.

phor it contains can avail but little, and its effects as a bitter or aromatic are so very inconsiderable, this root is now deemed to possess very little medicinal power, and might safely be expunged from the Materia Medica;[f] though it still has a place in the confectio aromatica of the London pharmacopœia.

[f] Dr. Cullen says, "I am clear that it might safely be omitted in our lists of the Mat. Med." *Mat. Med. vol. ii. p.* 207.

Lilium candidum

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ORD. XLVI. LILIACEÆ.

(From *Lilium*, the Lily.)

Plants of the Lily tribe, and those resembling it.

LILIUM CANDIDUM. COMMON WHITE LILY.

SYNONYMA. Lilium album. *Pharm. Edinb.* *Gerard Emac.* p. 190. *Raii Hist.* p. 1190. Lilium album vulgare. *Park. Parad.* 39. *J. Bauh. Hist. ii.* p. 685.

α Lilium album flore erecto et vulgare. *Bauh. Pin.* p. 76.

β Lilium album floribus dependentibus sive peregrinum. *Bauh. Pin.* p. 76. *Nodding-Flowered White Lily.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 410.

Ess. Gen. Ch. *Cor.* 6-petala, campanulata: *linea* longitudinali nectarifera. *Caps.* valvulis pilo cancellato connexis.

Sp. Ch. L. foliis sparsis, corollis campanulatis: intus glabris.

THE root is a large bulb, from which proceed several succulent fibres: the stem is firm, round, upright, simple, and usually rises about three feet in height: the leaves are numerous, long, narrow, pointed, smooth, without footstalks, and irregularly scattered over the stem: the flowers are large, white, and terminate the stem in clusters upon short peduncles: it has no calyx: the corolla is bell-shaped, consisting of six petals, which within are of a beautiful shining white, but without ridged, and of a less luminous whiteness: the filaments are six, tapering, much shorter than the corolla, upon which are placed transversely large orange-coloured antheræ:

the style is longer than the filaments, and furnished with a fleshy triangular stigma: the germen becomes an oblong capsule, marked with six furrows, and divided into three cells, which contain many flattish seeds of a semicircular form. It flowers in June and July.

This Lily, which now very commonly decorates the borders of our gardens with the beautiful whiteness[a] of its flowers, is a native of the Levant, and has been cultivated here since the time of Gerard. The flowers of this plant have a pleasant sweet smell, and were formerly used for medicinal purposes;[b] a watery distillation of them was employed as a cosmetic, and the oleum liliorum was supposed to possess anodyne and nervine powers; but the odorous matter of these flowers is of a very volatile kind, being totally dissipated in drying, and entirely carried off in evaporation by rectified spirit as well as water; and though both menstrua become impregnated with their agreeable odour by infusion or distillation, yet no essential oil could be obtained from several pounds of the flowers. It is therefore the roots only which are now directed by the Edinburgh College: they are extremely mucilaginous, and are chiefly used, boiled with milk or water, in emollient and suppurating cataplasms: it is probable however, that the poultices formed of bread or farina, possess every advantage of those prepared of Lily root.

Lilium ἀ λειριον vel λιριον. By the Greeks it is called χρινον.

[a] Alluding to this, Ovid, in the luxuriancy of his imagination, ascribes its origin to the milk of Juno.

"Dum puer Alcides Divæ vagus ubera suxit
"Junonis, dulci pressa sapore fuit;
"Ambrosiumque alto lac distillavit Olympo
"In terras fusum Lilia pulchra dedit."

Pliny says, *Lilium Rosæ* nobilitate proximum est; and both these flowers have furnished their share of metaphor to ancient and modern poets.

Either singly,

——— vel mixta rubent ubi lilia multâ
Alba rosâ: tales virgo dabat ore colores. ÆN. lib. xii. 68.

[b] Particularly as an antiepileptic and anodyne.

Scilla maritima

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SCILLA MARITIMA. OFFICINAL SQUILL, or, SEA ONION.

SYNONYMA. Scilla. *Pharm. Lond. & Edinb.* Scilla vulgaris radice rubra. *Bauh. Pin. p.* 73. *Raii Hist. p.* 1164. Scilla rubra, sive Pancratium verum. *Park. Parad. p.* 133. Scilla rubra magna vulgaris. *J. Bauh. Hist. ii. p.* 615. Pancratium Clusii. *Gerard. Emac. p.* 172. Ornithogalon maritimum, seu scilla radice rubra. *Tourn. Inst. p.* 381. β Scilla radice alba. *Bauh. l. c.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 491.

Ess. Gen. Ch. *Cor.* 6-petala, patens, decidua. *Filamenta* filiformia.

Sp. Ch. S. nudiflora, bracteis refractis.

THE root is large, perennial, bulbous, coated, of a reddish hue, abounding with a tenacious juice, and furnished with many white fibres, which issue from its base: the stem is round, smooth, succulent, and rises two or three feet in height: the leaves are sword-shaped, radical, smooth, pointed, long, and of a deep green colour: the flowers are whitish, produced in a long close spike upon purplish peduncles, and appear in April and May: the bracteæ are linear, twisted, and deciduous: it has no calyx: the corolla is composed of six petals, which are ovate, patent, with a reddish mark in the middle: the filaments are six, tapering, shorter than the corolla, and furnished with oblong antheræ, placed transversely: the germen is roundish, supporting a simple style about the length of the filaments, and furnished with a simple stigma: the capsule is oblong, smooth, marked with three furrows, and divided into three cells, which contain many roundish seeds.

This plant is a native of Spain, Sicily, and Syria, growing in sandy situations on the sea coast, and hence the name *maritima*. It was first cultivated in England at the botanic garden at Oxford about the year 1648.[a] The red rooted variety has been supposed

[a] Vide *Hort. Oxon. ed.* 1. *p.* 48.

to be more efficacious than the white, and is therefore still preferred for medicinal use:[b] it is to the taste very nauseous, intensely bitter, and acrimonious, but without any perceptible smell.——"Water, wine, proof spirit and rectified spirit, extract the virtues both of the fresh and the dry root. Nothing rises in distillation with any of these menstrua, the entire bitterness and pungency of the Squill remaining concentrated in the inspissated extracts: the spirituous extract is in smaller quantity than the watery, and of a proportionably stronger almost fiery taste."

"Alkalines considerably abate both the bitterness and acrimony of the Squill: vegetable acids make little alteration in either, though the admixture of the acid taste renders that of the Squill more supportable. These acids extract its virtue equally with watery or spirituous menstrua."[c]

The root of the Squill, which appears to have been known as a medicine in the early ages of Greece,[d] and has so well maintained its character ever since, as to be deservedly in great estimation, and of very frequent use at this time, seems to manifest a poisonous quality to several animals. In proof of this, we have the testimonies of Hillefeild,[e] Bergius,[f] Vogel,[g] and others. Its acrimony is so great that even if much handled it exulcerates the skin; and if given in large doses, and frequently repeated, it not only excites nausea, tormina, and violent vomitings, but it has been known to produce strangury, bloody urine, hypercatharsis, cardialgia, hæmorrhoids, convulsions, with fatal inflammation and

[b] It may be observed, that this red colour is only confined to the outer coats of the root.

[c] Lewis, *M. M.*

[d] Some refer its introduction to medical use to Epimenides; others to Pythagoras. Vide Haller, *Bib. Bot. p.* 12. It was sometimes called Σκιλλα, and sometimes Παγκρατιον, and is noticed by Dioscorides, Hippocrates, Galen, Aëtius, Celsus, Pliny, Cælius Aurelianus, and the Arabian physicians.

[e] *Diss. Experim. circa venena, p.* 12.

[f] *Mat. Med. p.* 265. [g] *V. in* Hillef. *p.* 18.

gangrene of the stomach and bowels.[h] But as many of the more active articles of the Materia Medica, by injudicious administration, become equally deleterious, these effects of the Scilla do not derogate from its medicinal virtues; on the contrary, we feel ourselves fully warranted in representing this drug, under proper management, and in certain cases and constitutions, to be a medicine of great practical utility, and real importance in the cure of many obstinate diseases. Its effects, as stated by Bergius, are incidens diuretica, emetica, subpurgans, hydragoga, expectorans, emmenagoga.[i] In hydropical cases it has long been esteemed the most certain and effectual diuretic with which we are acquainted; and in asthmatic affections,[k] or dyspnœa, occasioned by the lodgment of tenacious phlegm, it has been the expectorant usually employed.[l] The Squill, especially in large doses, is apt to stimulate the stomach, and to prove emetic; and it sometimes acts upon the intestines, and becomes purgative; but when these operations take place, the medicine is prevented from reaching the blood vessels and kidneys, and the patient is deprived of its diuretic effects; which are to be obtained by giving the Squill in smaller doses, repeated at more distant intervals,[m] or by the joining of an opiate to this medicine, which was found by Dr. Cullen to answer the same purpose. The Dr. further observes, that from a continued repetition of the Squill, the dose may be gradually increased, and the intervals of its exhibition shortened; and when in this way the doses come to be tolerably large, the opiate may be most conveniently employed to direct the operation of the Squill more certainly to the kidneys. "In cases of dropsy; that is, when

[h] See Lange, *de remed. Bruns. domest. p.* 176. Also Quarin, *Animadv. pract. p.* 166.

[i] *L. c.*

[k] All the authors who have written on these diseases, might here be cited.

[l] We do not notice its use as an emetic, as we think it entirely superseded by the ipecacuanha.

[m] This is mentioned on the authority of Dr. Cullen. *M. M. v. ii. p.* 558.

there is an effusion of water into the cavities, and therefore that less water goes to the kidneys, we are of opinion, that neutral salt, accompanying the Squill, may be of use in determining this more certainly to the kidneys: and whenever it can be perceived that it takes this course, we are persuaded that it will also be always useful, and generally safe during the exhibition of the Squills to increase the usual quantity of drink."[n]

The diuretic effects of Squills have been supposed to be promoted by the addition of some mercurial; and the less purgative preparations of mercury, in the opinion of Dr. Cullen, are best adapted to this purpose; he therefore recommends a solution of corrosive sublimate, as being more proper than any other, because most diuretic.

Where the primæ viæ abound with mucous matter, and the lungs are oppressed with viscid phlegm, this medicine is likewise in general estimation.

As an expectorant, the Squill may be supposed not only to attenuate the mucus, and thus facilitate its ejection, but by stimulating the secretory organs and mucous follicles, to excite a more copious excretion of it from the lungs, and thereby lessen the congestion, upon which the difficulty of respiration very generally depends. Therefore in all pulmonic affections, excepting only those of actual or violent inflammation, ulcer, and spasm, the Squill has been experienced to be an useful medicine.

The officinal preparations of Squills are a conserve, dried Squills,* a syrup, and vinegar, an oxymel, and pills. Practitioners

[n] Cullen, *l. c.*

* "We must not, however, miss to observe here, that the drying of the Squill is a business that requires much attention, as it may be readily over done, and thereby render the Squill entirely useless. This over drying in one way or other, happens more frequently than our apothecaries are aware of; and has led me to allow, that some operation on the stomach, some nausea excited by the Squill, is a necessary test of the activity of the portion of it employed." *Cullen, l. c.*

Allium sativum

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have not however confined themselves to these:[o] when this root was intended as a diuretic, it has most commonly been used in powder, as being in this state less disposed to nauseate the stomach; and to the powder it has been the practice to add neutral salts, as nitre, or crystals of tartar, especially if the patient complained of much thirst; others recommend calomel; and with a view to render the Squills less offensive to the stomach, it has been usual to conjoin an aromatic. The dose of dried Squill is from two to four or six grains, once a day, or half this qnantity twice a day; afterwards to be regulated according to its effects. The dose of the other preparations of this drug, when fresh, should be four times this weight; for this root loses in the process of drying four-fifths of its original weight, and this loss is merely a watery exhalation.[p]

[o] See on this subject Wagner, *obs. clin. sect.* 2. in Hall. *collect. diss.* Ludwig, *Advers Medio-pract. vol. ii. p.* 695. Quarin, *l. c.* Werlhof, *Oper.* Stoll, *Prælect. in morb. chron.* Home, *Clin. Exper. & Hist. p.* 357. *&c.*

[p] Duncan, *New Edinb. Dispens. p.* 322.

ALLIVUM SATIVUM. COMMON CULTIVATED GARLICK.

SYNONYMA. Allium. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 177. *Park. Theat. p.* 513. *Raii Hist. p.* 1125. Allium sativum. *Bauh. Pin. p.* 73. *J. Bauh. Hist. ii. p.* 554. Allium staminibus alterne trifidis, foliis gramineis, capite bulbifero, radicibus in unum bulbum congruentibus. *Hall. Opusc. p* 331. Σκορδον *Græc.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 409.

Ess. Gen. Ch. *Cor.* 6-partita, patens. *Spatha* multiflora. *Umbella* congesta. *Caps.* supera.

Sp. Ch. A. caule planifolio bulbifero, bulbo composito, staminibus tricuspidatis.

THE root is perennial, composed of several bulbs, enveloped in a common membrane, and from its base sends off many long white fibres: the stem is simple, and rises about a foot and a half in height: the leaves at the root are numerous, on the stem few; they are all long, flat, grass-like: the flowers of all the plants of this species which we have seen, arise between the small bulbs or rocamboles, which terminate the stem in a cluster: each flower is very small, whitish, and commonly abortive: the calyx is a spatha common to all the florets and bulbs; it is withered, and of a roundish shape: the corolla consists of six oblong petals: the filaments are six, tapering, alternately trifid, shorter than the corolla, and furnished with oblong erect antheræ: the germen is placed above the insertion of the corolla, short, angular, and supports a simple style, terminated by an acute stigma: the capsule is short, broad, trilobed, three-celled, three-valved, and contains roundish seeds. It flowers in July.

This species of Garlick, according to Linnæus, grows spontaneously in Sicily;[a] but as it is much used both for culinary and medicinal purposes, it has been long very generally cultivated in gardens: it shews the same propensity to forming bulbs instead of flowers as the A. Scorodoprasum or Rocambole Garlick, which it also resembles in other respects.

Every part of the plant, but more especially the root, has a pungent acrimonious taste, and a peculiarly offensive strong smell. This odour is extremely penetrating and diffusive, for on the root being taken into the stomach, the alliaceous scent impregnates the

[a] Vide *Spec. Plant.*

whole system, and is discoverable in the various excretions.[b] This volatile matter is, in part at least, an essential oil, which may be obtained in distillation in the ordinary manner, and like the oils of many of the siliquose plants, sinks in water. Applied to the skin, Garlick produces inflammation, and frequently vesicates the part. "On drying, this root loses almost nine parts in fifteen, without suffering any considerable loss of its taste or smell; hence six grains dried are supposed to be equivalent to fifteen grains of the fresh root."[c]

Garlick is generically allied to the onion, from which it seems only to differ in being more powerful in its effects, and in its active matter, being in a more fixed state; by stimulating the stomach they both favour digestion, and as the stimulus is readily diffused over the system, they may therefore be considered as useful condiments with the food of phlegmatic people, or those whose circulation is languid, and secretions interrupted; but with those subject to inflammatory complaints, or where great irritability prevails, these roots, in their acrid state, may prove very hurtful.

The medicinal uses of Garlick are various: it has been long in estimation as an expectorant in pituitous asthmas, and other pulmonary affections, unattended with inflammation.[d] Its utility as a diuretic in dropsies, is also attested by unquestionable authorities;[e]

[b] As in the urine, perspiration, milk; and according to Bennet, the discharge of ulcers becomes imbued with this odour very soon after the Garlick has been taken into the stomach. Vide *Tabidorum theat. exerc.* 29. *p.* 81. On being applied to the feet, the alliaceous taste has been produced in the mouth. Vide *Hall. opusc. bot. p.* 332.

[c] *Lewis, M. M. p.* 33.

[d] Dioscorides mentions its use in inveterate coughs. *M. M. l.* 2. *c.* 182. Celsus employed it mixed with honey in these complaints. *Lib.* 4. *c.* 4. *p.* 199. *ed Kraus.* Vide *Mead. Monit. et præc. p.* 56. Rosenstein *Hus-och Rese-apot. p.* 71 *&* 87. He recommends the Garlick to be boiled in milk, a pint of which is to be taken night and morning.

[e] See the cases related by Forestus, *(Obs. lib.* 9. *obs.* 27.) Bartholinus, *(Hist. Anat. Cent.* 2. *hyst.* 74. Sydenham, *(Oper. p.* 500.)

and its febrifuge power has not only been experienced in preventing the paroxysms of intermittents,[f] but even in subduing the plague.[g]

Another virtue ascribed to Garlick is that of an anthelmintic:[h] it has likewise been found of great advantage in scorbutic cases,[i] and in calculous disorders, acting in these not only as a diuretic, but in several instances manifesting a lithontriptic power.[k] That the juice of alliaceous plants in general has considerable effects upon human calculi, is to be inferred by the experiments of Lobb;[l] and we are abundantly warranted in asserting, that by a decoction of the beards of leeks, taken liberally, and its use persevered in for a length of time, has been found remarkably successful in calculous and gravelly complaints.[m]

[f] Vide Celsus *l. c. p.* 142. De Hæn *Rat. Med. P. ii. p.* 57. *sq.* Rosenstein *Barns sjukd. p.* 317. Bergius. Vide *M. M. p.* 255. where he says, "In febribus quoque autumnalibus repullulantibus præclara identidem præstat. Vidi plures eodem curatos, etiam quos quartana vexaverat. Incipiendum a bulbulo unico mane & vesperi, sed quotidie unus bulbulus superaddendus, usquedum 4 vel 5 bulbulos sumserit æger qualibet vice. Si febris tunc evanuit, diminuenda erit dosis, & sufficit postea sumere unicum, vel etiam binos bulbulos, mane & vesperi, per plures septimanus.

[g] For this purpose it is to be given in such a way as to excite a copious diaphoresis. See the authors cited by Zorn. *Botan. Med. p.* 40. Chenot (*De peste. p.* 108. *sq.* and others.

[h] By Hoffman, Rosenstein, Taube, and others.

[i] See Lauremberg App. plant. l. 1. p. 22. Lind. on scurvy, p. 182. 188. 224.

[k] Vide Hoyer *Ephem. nat. cur. Cent. i. p.* 126. Goetz. *Act. nat. cur. vol.* 2. *p.* 434. Möhring *Commerc. Nor.* 1735. 220.

[l] De Dissol. calc. cap. 10.

[m] A boy, six or seven years old, had for a considerable time suffered by a calculus in the urinary bladder, which had been discovered on sounding; he had recourse to this decoction, which very soon relieved the pain; after which his urine became extremely turbid, and constantly deposited a copious clay-like sediment for several weeks, when it resumed its natural appearance, and the boy has ever since been free from complaint. Another case similar to this has also been reported to us, of the truth of which we have not a doubt.

Veratrum album

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The penetrating and diffusive acrimony of Garlick renders its external application useful in many disorders, as a rubifacient, and more especially as applied to the soles of the feet, to cause a revulsion from the head or breast, as was successfully practised and recommended by Sydenham.[n] Garlick has also been variously employed externally to tumors and cutaneous diseases; and in certain cases of deafness a clove or small bulb of this root, wrapt in gauze or muslin, and introduced into the meatus auditorius, has been found an efficacious remedy.[o]

Garlick may be administered in different forms; swallowing the clove entire, after being dipped in oil, is recommended as the most effectual, or where this cannot be done, by cutting it into pieces without bruising it, may be found to answer equally well, producing thereby no uneasiness in the fauces. On being beaten up, and formed into pills, the active parts of this medicine soon evaporate: this we notice on the authority of Dr. Cullen, who thinks that Lewis has fallen into a gross error, in supposing dried Garlick more active than fresh.

The sprup and oxymel of Garlick, which formerly had a place in the British Pharmacopœias, are now expunged.

[n] Especially in the confluent small-pox, about the eighth day. *Epist. de variolis conf.*

[o] Bergius for this purpose recommends the juice of Garlick dropped on cotton. *l. c.*

VERATRUM ALBUM. WHITE HELLEBORE, or, VERATRUM.

SYNONYMA. Helleborus albus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 440. *Raii Hist. p.* 168. Helleborus Albus, flore subviridi. *Bauh. Pin. p.* 186. Helleborus albus vulgaris. *Park. Theat. p.* 217. Veratrum flore subviridi. *Tournef. Inst. p.* 272. Veratrum spica paniculata, floribus maribus & feminis. *Hall. Stirp. Helv. n.* 1204. Veratrum album. *Jacq. Flor. Aust. v. iv. t.* 335. *Mill. Illustr. ic.*

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1144.

Ess. Gen. Ch. *Hermaphrod.* *Cal.* 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* 3. *Caps.* 3, polyspermæ.

Masc. *Cal.* 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* rudimentum.

Sp. Ch. V. racemo supradecomposito, corollis erectis.

THE root is perennial, about an inch thick, externally brown, internally white, and beset with many strong fibres: the stalk is thick, strong, round, upright, hairy, and usually rises four feet in height: the leaves are numerous, very large, oval, entire, ribbed, plaited, without footstalks, of a yellowish green colour, and surround the stem at its base: the flowers are both hermaphrodite and male, of a greenish colour, and appear from June to August, in very long branched terminal spikes: the hermaphrodite flowers are without calyces: the corolla consists of six petals, which are oblong, or lance-shaped, veined, persistent, of a pale green colour: the filaments are six, closely surrounding the germens, shorter than the corolla, and terminated by quadrangular antheræ: the germens are three in each flower, erect, oblong, ending in short hairy styles, which are crowned with flat spreading stigmata: the capsules are three, oblong, compressed, erect, two-celled, opening inwardly, and containing many oblong compressed membranous seeds. The male flowers differ from these only in wanting the germens.

This plant is a native of Italy, Switzerland, Austria, and Russia: its first cultivation in this country is ascribed to Gerard, and of course was previous to the year 1596.

The Ελλεβορος λευκος of the Greek writers is by many supposed to be our Helleborus albus; but this opinion, like many others respecting the identity of the ancient nomenclature of plants with that of the modern, seems drawn rather from the similarity of their effects upon the body, than from an agreement in their botanical descrip-

tions. This will evidently appear upon comparing the plant here figured with the description given by Dioscorides:* and yet Geoffroy says, "Apud Dioscoridem hellebori albi descriptio, veratro albo nostro satis apte convenit."[a]

The Ελλεβορος μελας, or famous Anticyran Hellebore,[b] is likewise thought to be the Helleborus niger of Linnæus, an account of which has been given at page 473; but the descriptions of the former by the ancients are so vague that their identity is equally doubtful;[c] the application therefore of what has formerly been said of the Hellebores of the Greeks to those known of us, can only be admitted as a matter of probability.

Hippocrates frequently mentions Hellebore simply, or generically, by which we are told the white is to be understood, as he adds the words black or purging when the other species is meant; and as the purgative powers of Veratrum are known to be weaker than those of helleborus niger, the distinction is so far applicable to the effects now experienced of the roots of our Hellebores.

* "Helleborus albus folia fert Plantaginis aut Betæ sylvestris similia, sed breviora, nigriora, & dorso rubescentia: caulem palmi altitudine, concavum; qui quidem tunicas quibus convolvitur abdicat cum arescere incipit. Radices subjacent numerosæ, tenues ac fibratæ, ab exiguo & oblongo capitulo, ceu cæpa, exeuntes, eidemque annexæ. Nascitur in montosis & asperis." *Dioscorid. M. M. L. iv. c.* 150. This description of the plant, though imperfect, is the only one given by the ancients.

[a] *Mat. Med. vol. ii. p.* 68.

[b] "Naviget Anticyram."—
Danda est hellebori multo pars maxima avaris:
Necio, an Anticyram ratio illis destinet omnem.
HOR. SAT. Lib. ii. v. 82.

It is said that both the white and black hellebore grew at Anticyra, but the latter was accounted safer, and therefore more commonly employed. *Pausanias, Lib. x. p.* 623.

[c] Though Tournefort says, "Nous connûmes deux Herboristes à Pruse, l'un Emir & l'autre Armenien, qui passoient pour de grands Docteurs. Ils nous fournirent des racines du veritable Ellebore noir des anciens, autant que nous voulumes pour en faire l'extrait. C'est la même espece que celle des Anticyres & des côtes de la Mer Noir." See his account of Mount Olympus. *Voyage du Levant.* But his description of the plant differs widely from that of our Helleborus niger.

It appears from various instances, that not only the roots of white Hellebore, but that every part of the plant is extremely acrid and poisonous, as its leaves and even seeds proved deleterious to different animals.[d] The dried root has no peculiar smell, but a durable nauseous acrid bitterish taste, burning the mouth and fauces; when powdered and applied to issues or ulcers it produces griping and purging; if snuffed up the nose it proves a violent sternutatory. Gesner made an infusion of half an ounce of this root with two ounces of water, of this he took two drams, which produced great heat about the scapulæ, and in the face and head, as well as the tongue and throat, followed with singultus, which continued till vomiting was excited.[e] Bergius also experienced very distressing symptoms merely by tasting this infusion.[f] The root, taken in large doses, discovers such acrimony, and operates upwards and downwards with such violence that blood is usually discharged:[g] it likewise acts very powerfully upon the nervous system, producing great anxiety, tremors, vertigo, syncope, loss of voice, interrupted respiration, sinking of the pulse, convulsions, spasms, cold sweats, &c.[h] Upon opening those who have died by the effects of this poison, the stomach discovered marks of inflammation, with corrosions of its interior coat, and the lungs have been found inflamed, and their vessels much distended with dark blood.[i]

The ancients, though sufficiently acquainted with the virulency of their white Hellebore, were not deterred from employing it

[d] See Pallas, *Russ. Reise, vol. i. p.* 49. Klam's *N. Amer. tom. iii. p.* 48. Gunner, *Fl. Norveg. P. ii. p.* 2. For the poisonous effects of the roots, when applied to wounds of different animals, Vide *Phil. Trans. vol. xlvii. p.* 82.

[e] *Epist. Med. p.* 69. [f] *M. M. p.* 819.

[g] Ettmuller. *Oper. tom. ii. P.* 2. *p.* 435.

[h] Wepfer, *de Cicut. p.* 48. Lorry *de Melanch. ii. p.* 313. Borrich. *Act. Haf. vol. vi. p.* 145. Albert. Jurisprud. *Med. vol. vi. p.* 718. Bresl. Samml. 1724. *P.* 2. *p.* 269. *p.* 537. Act. Berol. *Dec.* 2. *vol.* 6. Misc. Nat. Cur. *Dec.* 2. *Ann.* 2. *p.* 239.

[i] *Act. Berol. cit. Misc. Nat. Cur. cit.*

internally in several diseases, especially those of a chronic and obstinate kind, as mania, melancholia, hydrops, elephantiasis, epilepsia, vitiligo, lepra, rabies canina, &c. they considered it the safer when it excited vomiting, and Hippocrates wished this to be its first effect. To those of weak constitutions, as women, children, old men, and those labouring under pulmonary complaints, its exhibition was deemed unsafe; and even when given to the robust it was thought necessary to moderate its violence by different combinations and preparations; for it was frequently observed to effect a cure not only by its immediate action upon the primæ viæ, but when no sensible evacuation was promoted by its use.[k]

Similar observations have been made of Veratrum by authors of later times: Mayerne[l] gave from two to three grains of an extract of this root with considerable advantage in maniacal cases, where no remarkable evacuation took place; and Con. Gesner,[m] who investigated the qualities of Veratrum by repeated experiments, and whose encomiums on its efficacy seemed for a while to restore it to the ancient character of Hellebore, expressly declares, that he did not give it as an evacuant, but to produce the more gradual effects of those medicines termed alteratives. Gesner's account of

Bergius says, "Ego vix a memet impetrare potero, ut radicis, ita intense venenatæ, usum internum cuiquam suasurus sim, nisi summa adhibita circumspicientia; etenim constat, eam, in satis parca dosi propinatam, sæpe horrenda symptomata excitasse, ut sitim, cardialgiam, tormina, singultum, suffocationes, convulsiones, tremores, inflammationem primarum viarum, lipothymias, sudorem frigidum, immo & mortem." *l. c.*

[k] Hippocr. περι Ελλεβορισμου in Oper. ed. Lind. *tom. i. p.* 610. Et Aphorism. *Sect. iv. Aph.* 13—16.

[l] Prax. Med. *Lib. i. c.* 7. *p.* 69. *sq.*

[m] He says, "non ad purgandum, sed ad reserandos meatus & crassos humores attenuandum, eosque a centro & interioribus corporis ad superficiam & vias excretionum variarum educendum." Adding, "recreat & roberat, & hilariorem facit, & acuit ingenium: quod in me & aliis sæpissime expertus scribo." Had Gesner lived long enough, he had still more to say on this subject. "Ego, si vixero, in Ellebori historia multa proferam, quæ medici admirentur." *l. c.*

Veratrum was followed by those of several other authors,[n] in which it is said to have been serviceable in various chronic diseases. But the fullest trial which seems to have been lately made of the efficacy of Veratrum is by Greding,[o] who employed it in a great number of cases, (twenty-eight) of the maniacal and melancholic kind; the majority of these, as might be expected, derived no permanent benefit; several however were relieved, and five completely cured by this medicine. It was the bark of the root, collected in the spring, which he gave in powder, beginning with one grain: this dose was gradually increased according to its effects. With some patients one or two grains excited nausea and vomiting, but generally eight grains were required to produce this effect, though in a few instances a scruple, and even more, was given. We may also remark, that he sometimes used the extract prepared after Stoerck's manner.—In almost every case which he relates, the medicine acted more or less upon all the excretions: vomiting and purging were very generally produced, and the matter thrown off the stomach was constantly mixed with bile; a florid redness frequently appeared on the face, and various cutaneous efflorescences upon the body; and, in some pleuretic, symptoms with fever supervened, so as to require bleeding, nor where the more alarming affections of spasms and convulsions unfrequent. Critical evacuations, we are told, were often very evident, many sweated profusely, in some the urine was considerably increased, in others, the saliva and the mucous discharges: also uterine obstructions, of long continuance, were often removed by this drug.

Veratrum has likewise been found useful in epilepsy, and other

[n] *Hannemann, Quercetanus, Screta, Wepfer, Muralto, Linder.*

[o] *Vermischte Med. u. chirurg. Schristen. Altenb.* 1781. to *p.* 30.

Wendt relates a case of mania, brought on by taking pepper and spirits of wine as a remedy for the ague; the disease continued thirty-three weeks, when it was said to have been cured by a decoction of white hellebore; but as copious and repeated bleedings, with other means, were employed, the cure cannot wholly be ascribed to the hellebore. See Agassiz. *Diss. de therapia maniæ. Erl.* 1785. *p.* 37.

Colchicum autumnale

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convulsive complaints,[p] but the diseases in which its efficacy seems least equivocal, are those of the skin,[q] as scabies and different prurient eruptions, herpes, morbus pediculosus, lepra, scrophula, &c. and in many of these it has been successfully employed both internally and externally.

As a powerful stimulant, and irritating medicine, its use has been resorted to only in desperate cases, and then it is first to be tried in very small doses, in a diluted state, and to be gradually increased, according to the effects.

[p] Greding, *l. c.* See also Smyth in *Medical Communications, vol. i. p.* 207.

[q] Its success in these complaints is mentioned both by the ancient and modern writers. Smyth relates three cases. See *l. c.*

The Veratrum nigrum of Lin. or Helleborus albus flore atro-rubente of C. Bauh. is said to produce the same effects as the Veratrum album. See Lorry, *de melanch. tom. ii. p.* 289. & Linnæus, *Amoen. Acad. vol. ix. p.* 261. Helleborus is supposed to be derived ἀπο τυ ἑλειν βορα quod esu perimat. Veratrum dicitur quod mentem vertat, or, à verare i. e. vera loqui. *V. C. Bauh. l. c.*

COLCHICUM AUTUMNALE. COMMON MEADOW SAFFRON.

SYNONYMA. Colchicum. *Pharm. Lond. & Edinb.* Colchicum commune. *Bauh. Pin. p.* 67. *Raii Hist. p.* 1170. *Synop. p.* 373. Colchicum purpureum & Anglicum album. *Gerard. Emac. p.* 157. *Park. Parad. p.* 153. Colchicum Flore folium longe præcedente, petalis ovatis. *Hall. Stirp. Helv. n.* 1255. C. autumnale. *Hudson. Fl. Ang. p.* 136. *Ed.* 1762. *Light. Fl. Scot. p.* 192. *Withering Bot. Arr. p.* 379. *Stoerck Lib. de Colch. autumn.*

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 457.

Ess. Gen. Ch. *Cor.* 6-partita: tubo radicato. *Capsulæ* connexæ inflatæ.

Sp. Ch. C. foliis planis lanceolatis erectis.
α Flore simplici. β Flore pleno.

THE root is perennial, consisting of a solid double succulent bulb, covered with a brown membranous coat: the flower is large, of a purplish colour, and rises immediately from the root upon a long naked tube,[a] like that of the Saffron: the leaves appear in the spring, and are numerous, radical, spear-shaped, one or two much narrower than the others: there is no calyx: the corolla is monopetalous, and divided into six lance-shaped large erect segments, of a pale purple colour: the filaments are six, tapering, white, much shorter than the corolla, and furnished with erect pointed yellow antheræ: the germen is lodged at the root, from which issue three slender styles, reflexed at the top, and terminated by simple pointed stigmata: the capsule is three-lobed, divided into three cells, containing numerous small globular seeds, which do not ripen till the succeeding spring, when the capsule rises above the ground upon a strong peduncle. It is a native of England, affecting meadow grounds of a rich soil,[b] and flowers in September.

The recent root of this plant has been received into the Materia Medica of both Pharmacopœias, on the recommendation of Baron Stoerck, who first thought of converting this acrid poison to the purposes of medicine.[c] Respecting its effects and sensible qualities, authors have given very different reports. Haller informs us, that he found this root perfectly void of taste and acrimony.[d] Krapf likewise says, that he ate the whole bulbs without feeling any inconvenience, except that of an ungrateful bitterish taste;[e] and Kratochvill gave this root with impunity to several in doses of two, three, and even four drams;[f] while Stoerck tells us, that by

[a] Hence it has been called *naked lady.*

[b] It is not so rare a plant as the Saffron.

[c] The external use of this root, and the wearing it inclosed in a bag, suspended about the neck, which was formerly practised for the purpose of preventing and curing pestilential fevers, will hardly be thought an exception to this assertion.

[d] *L. c. n.* 1256.

[e] *Cont. Experim. in Stoerck. p.* 233. [f] Vide *Kratochvill de Colch. p.* 35.

gently rubbing the root against the tip of his tongue, it rendered the part rigid, and almost void of sensation, for several hours.[g] Ehrmann,[h] Marges,[i] Murray,[k] and several other writers, also bear testimony to the great acrimony of Colchicum; so that we can only reconcile these contradictory accounts by supposing these roots to vary much according to their age, the soil in which they grow, and probably still more according to the season of the year in which they are dug up. Baron Stoerck asserts, that on cutting the fresh root into slices, the acrid particles emitted from it irritated the nostrils, fauces, and breast; and that the ends of the fingers with which it had been held, became for a time benumbed;[l] that even a single grain in a crumb of bread, taken internally, produced a burning heat and pain in the stomach and bowels, urgent strangury, tenesmus, colic pains, cephalalgia, hiccup, &c.[m] From this relation, it will not appear surprising that we find several instances recorded in which the Colchicum proved a fatal poison both to man[n] and brute animals.[o]

From various observations on the effects of Colchicum made by Baron Stoerck, and especially upon the infusion of three grains of the fresh root in four ounces of wine, he remarked that its diuretic power was very considerable, and therefore concluded that if its

[g] *Lib. de Colch. p.* 8. 9.

[h] *Diss. de Colch. Basil.* 1772. §. 5. [i] Vide *Journal de Med. tom.* 23. *p.* 32. *sq.*

[k] *App. Med. vol.* 5. *p.* 196.

[l] *L. c. p.* 25. [m] *L. c. p.* 11.

[n] Two boys, after eating this plant, which they found growing in a meadow, died in great agony. *Jo. Agricola Ammonius, Medic. herbar. lib.* 1. *p.* 90. See also *Ludovici Opera, p.* 63. Violent symptoms have been produced by taking three of the flowers. *Garidel, Plantes d'Aix. p.* 123. The seeds likewise have been known to produce similar effects. *Brèssl. Samml.* 1723. p. 679.

[o] Deer and oxen have fallen a sacrifice to this poison; and according to Stoerck two drams of the root killed a dog in thirteen hours, and upon opening its abdomen, the stomach and bowels were found to be greatly inflamed, or in a gangrenous state. *L. c. p.* 17.

deleterious acrimony were destroyed, it might prove in this character an efficacious medicine; accordingly he digested an ounce of the recent root sliced in a pound of vinegar for forty-eight hours with a gentle heat; the vinegar being then strained, it proved acrid to the taste, constringed and irritated the fauces, and excited a slight cough; to obviate which, he mixed the vinegar with twice its weight of honey, and gently boiled it down to the consistence of honey, forming an oxymel sufficiently grateful, and which, taken in doses of a dram, promoted a copious discharge of urine, without producing any inconvenience from its acrimony, though it moderately stimulated the fauces, and absterged the mucus. Thus, like the squill, it was found both expectorant and diuretic; and the successful use of this medicine in various hydropic disorders in the hospital at Vienna, equalled the Baron's utmost expectations. He recommends, at first, a dram of the oxymel to be given twice a day in any suitable vehicle, and gradually to increase the dose to an ounce or more in a day. Many other practitioners, who employed the oxymel colchici in these complaints, also experienced its good effects, especially in Germany[p] and France,[q] where it continues to be a favourite medicine: in England, however, the Colchicum has been less successful,[r] and is very generally thought a less efficacious diuretic than the squill, which excells it still more as an expectorant. The London College, conformably to the practice of Stoerck, directs an oxymel colchici, and that of Edinburgh a syrup; the latter however differs from the former only in using sugar instead of honey.

[p] As Zach, Krapf, Plenck, Collin, Ehrmann, and others.

[q] We may here mention Marges, Planchon, Du Monceau, &c. &c.

[r] Vide *Med. Obs. & Inq. vol. 3. præf.* See also *Monro's Essay on Dropsy, p.* 108.

Crocus sativus

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CROCUS SATIVUS. SAFFRON CROCUS.

SYNONYMA. Crocus. *Pharm. Lond. Gerard. Emac. p.* 151. *Raii Hist. p.* 1176. *Synop. p.* 374. Crocus verus sativus autumnalis. *Park. Parad. p.* 167. Crocus sativus. *Bauh. Pin. p.* 65. *Hudson. Flor. Ang. p.* 13. *Withering Bot. Arr. p.* 37. *Relhan. Flor. Cant. p.* 15. *Miller's Figures, t.* 111. Conf. *Douglas. Phil. Trans. vol.* 32. *p.* 441. *Du Hamel, and Fougeroux De Bondaroy. Mem de L'Acad. des Scien. de Paris,* 1728. *p.* 100. *and p.* 92. *f.* 1. 2.

Class Triandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 55.

Ess. Gen. Ch. *Cor.* 6-partita, æqualis. *Stigmata* convoluta.

Sp. Ch. C. spatha univalvi radicali, corollæ tubo longissimo.

α C. autumnalis, *foliis angustioribus margine revolutis.* Miller. Illus.

β C. vernalis, *foliis latioribus margine patulo.* Jacquin. Aust. v. 5. Curt. Mag. 45.

THE root is bulbous, perennial: the flower appears after the leaves, rising very little above the ground upon a slender succulent tube: the leaves rise higher than the flower, are linear, simple, radical, of a rich green colour, with a white line running in the centre, and all at the base inclosed along with the tube of the flower in a membranous sheath: the flower is large, of a bluish purple, or lilac colour: the corolla consists of six petals, which are nearly elliptical, equal, and turned inwards at the edges: the filaments are three, short, tapering, and support long erect yellow antheræ: the germen is roundish, from which issues a slender style, terminated by three long convoluted stigmata, of a deep yellow colour: the capsule is roundish, three-lobed, three-celled,

three-valved, and contains several round seeds. It flowers in September and October.

It is now indubitably ascertained that this plant is a native of England, though unknown to Ray, Miller, and several other subsequent botanists. It has been long cultivated for use in this and in many other countries: but English Saffron is generally preferred here to that which is imported from abroad, and may be distinguished by its parts being larger and broader. All the different plants of this genus are by Linnæus considered only as varieties of the C. sativus. Jacquin,[a] however, makes a distinct species of the spring Crocus: in this he has been followed by Curtis, who has published a figure of the plant in his Botanical Magazine: and Miller, who describes four species of this family, thinks all of them "must be allowed to be specifically different, since they do not vary to each other."[b]

The stigmata of the Crocus here figured, which constitute the officinal Saffron, are easily to be distinguished from those of the other varieties, and in the neighbourhood of Saffron-Walden, and in some parts of Cambridgeshire, where the plant is chiefly cultivated, are prepared for use in the following manner. In autumn, when the flowers appear, they are gathered every morning, and are spread upon a table; the stigmata along with a portion of the style, are then picked from the other part of the flowers, which are thrown away as useless. The stigmata being thus collected in sufficient quantity are then dried, which is effected by means of portable kilns, of a peculiar construction, over which a hair cloth is stretched; and upon this are placed a few sheets of white paper, on which the stigmata are strewed, about two or three inches thick, and then covered with several sheets of paper, over which is laid a coarse blanket, five or six times folded, or a canvas bag filled with straw; and when the fire has heated the kiln, a board, on which a weight is put, is placed upon the blanket in order to press the Saffron into a cake. For the first hour a pretty strong fire is

[a] Vide *l. c.* [b] See *Dict.*

employed; the Saffron is then found to be formed into a cake, which, after being turned, is subjected for another hour to the same degree of heat: it is then turned a second time, and a more gentle heat is applied for about twenty-four hours, or till the cake becomes dry, during which time it is turned every half hour.[c]

Saffron, thus prepared, has a powerful penetrating diffusive smell, and a warm pungent bitterish taste. "It gives out the whole of its virtues and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the Saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour."[d] The acetous, and even vinous tinctures of Saffron, on long keeping, lose a little of their colour and strength, but those made with rectified spirit remain in perfection for years.[e] "In distillation it impregnates water strongly with its flavour: if the quantity of Saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said by Vogel, to about a dram and a half from sixteen ounces. Rectified spirit elevates also a considerable share of its flavour, but leaves much the greater part concentrated in the extract."[f]

Saffron is evidently the Κροκος of the Greeks, Crocus of the Latins, and Zaffaran, or Zahafaran, of the Arabians. It was held in much estimation by the Hebrews, who called it Carcom, and was greatly celebrated in ancient times both by physicians and poets. As a medicine, Saffron was considered to be very powerful. Schroder asserts, that if taken to the quantity of two or three drams, it proves fatal; and by several authors we are informed, that in large doses it produced cephalalgia, intoxication, and mania.[h] We are

[c] For a full account of the cultivation and management of Saffron, see *Douglas in Phil. Trans. vol.* 35. *p.* 566. And *Miller's Dict.*

[d] *Lewis, M. M. p.* 258.

[e] *Ibid.* [f] *Ibid.*

[h] See especially *Zacut. Lusit. apud Fricc. de venen. p.* 394.

also assured, that it penetrates every part of the body, tinging the solids and excretions with a yellow colour;[i] and that even the odour or effluvia of this drug, have been known to produce deleterious effects.[k] It appears, however, from the experiments of Dr. Alexander,[l] that Saffron possesses but very little active power, and may be taken in considerable quantity, without producing any remarkable effect: and it was lately given in the Edinburgh Infirmary, by Dr. Henry Cullen, even to the extent of half an ounce a-day, in several hysterical cases, without any sensible effect whatever.*

Writers on the Materia Medica have very generally considered Saffron as a most exhilarating cordial; and for this purpose Boerhaave preferred the extract, inspissated only to the consistence of oil: but the observations of modern physicians do not furnish us with one instance in which this drug had any remarkable effect in raising the spirits; on the contrary Bergius informs us, that a lady always experienced great despondency by taking this medicine. It has been supposed of considerable efficacy as an emmenagogue; Riverius mentions a singular case of its powerful action in this way.[m] Dr. Cullen also informs us, that he has found it to succeed in this character in one or two instances; but that in many others, though repeatedly employed in large doses, no good effect was produced.[n] Another quality for which Saffron has been esteemed, is that of an antiseptic; yet though, (according to the experiments of Sir John Pringle,[o]) it manifested the power of retarding the putrefactive process of animal matter, we have no proof of its efficacy in this way on the living body, infected by a

[i] Hertodt, *Crocologia. p.* 279.

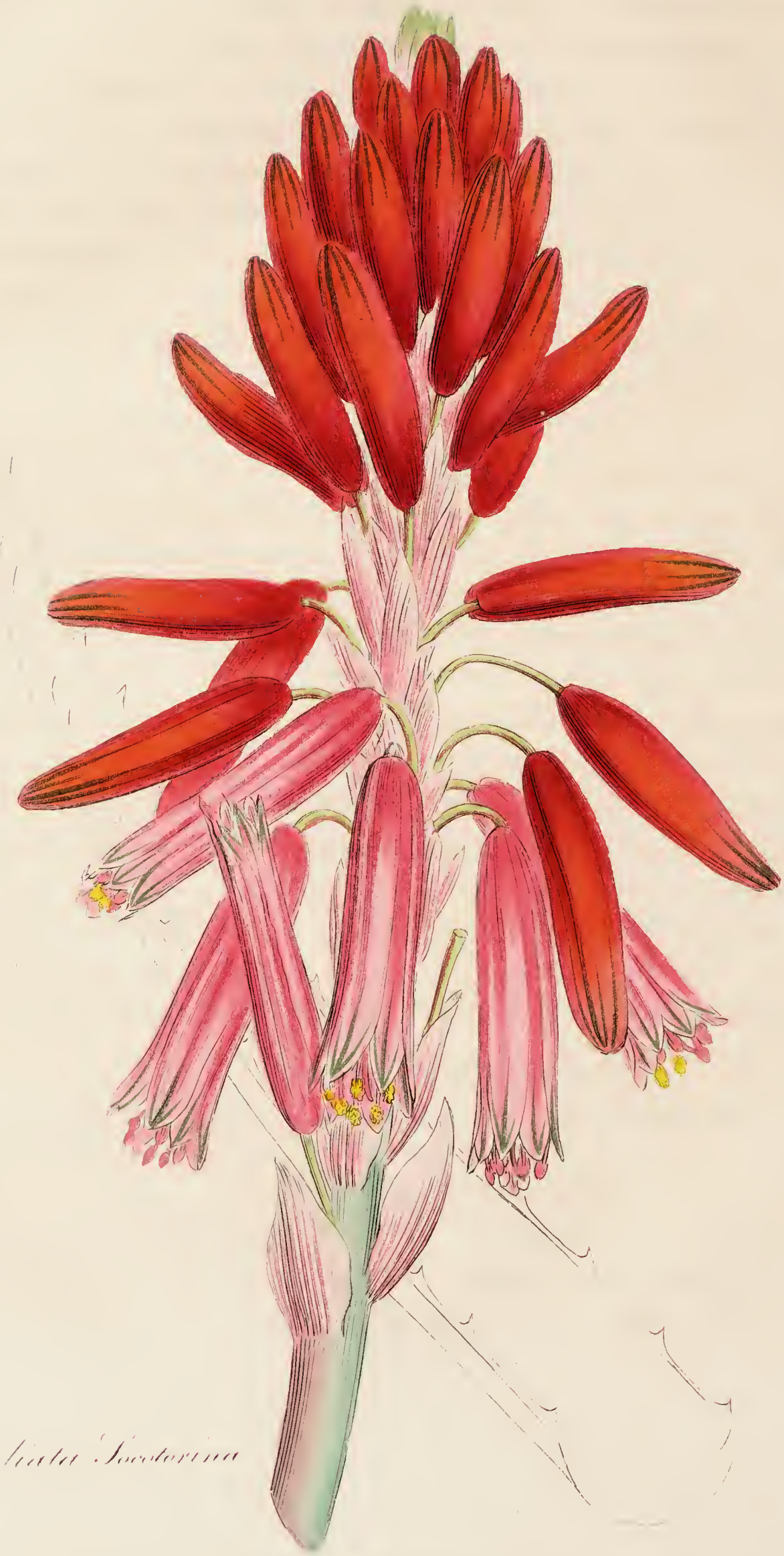
[k] Borellus. *Hist. et Obs. cent.* 4. *Obs.* 35. *p.* 303. Tralles, *de Opio. sect.* 1. *p.* 114. *Zacut. Lusit. l. c.*

[l] *Experimental Essays, p.* 88.

* See *Duncan's Edinburgh New Dispensatory, p.* 178.

[m] *Opera ed. Horst. p.* 136. [n] *Cullen. M. M. vol. ii. p.* 313.

[o] *Diseases of the Army, App. p.* 20.



Aloe perfoliata Scaberrima

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putrid disease. Saffron has also been employed as a diaphoretic, and for the purpose of throwing out variolous pustles, and other exanthemata; but this practice seems to have originated from a mistaken notion of the action of Saffron, as well as from a fallacious pathology, which is now utterly exploded. In short, though the sensible qualities of this medicine are pretty considerable, it appears to us to possess no other power than simply that of an aromatic: and Dr. Cullen declares, that he "has not been more puzzled upon any occasion, than in ascertaining the medicinal qualities of this substance,"[p] so that the words of a very classical writer may still be applied to it, though with a contrary view: "Nec poteris croci dotes numerare, nec usus."

At present very little confidence is placed in this medicine, though it enters several officinal compositions. The Edinburgh College directs a tinctura croci, but that of London only retains a syrup of this drug.

[p] *L. c.*

ALOE PERFOLIATA SOCOTORINA. SOCOTORINE ALOE.

SYNONYMA. Aloë socotorina. *Pharm. Lond. & Edinb.* Aloe Americana ananæ floribusque suave rubentibus. *Pluk. Almag. t.* 240. *f.* 4. Aloe (vera) foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis. *Mill. Dict.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 430.

Ess. Gen. Ch. *Cor.* erecta, ore patulo, fundo nectarifero. *Filam.* receptaculo inserta.

Sp. Ch. A. foliis caulinis dentatis amplexicaulibus vaginantibus, floribus corymbosis cernuis pedunculatis subcylindricis.

β *A. S.* foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis.

THE root is perennial, strong, fibrous: the flower-stems rise three or four feet in height, and are smooth, erect, of a glaucous green colour, and towards the top beset with ovate bracteal scales: the leaves are numerous, and proceed from the upper part of the root: they are narrow, tapering, thick, or fleshy, succulent, smooth, glaucous, and beset at the edges with spiny teeth: the flowers are produced in terminal spikes, and of a purple or reddish colour: there is no calyx: the corolla is monopetalous, tubular, nectariferous, cut into six narrow leaves which separate at the mouth: the filaments are six, tapering, yellowish, inserted into the receptacle, and furnished with oblong orange-coloured antheræ: the germen is oblong, supporting a simple slender style, of the length of the filaments, and terminated by an obtuse stigma: the capsule is oblong and divided into three cells, with as many valves, and contains many angular seeds.

It is a native of Africa, and flowers most part of the year.

Not only the socotorine aloes, which is the inspissated juice of the plant here represented, but also the hepatic or Barbadoes aloes is directed for officinal use in our pharmacopœias. This however being obtained from another variety of the same species, viz. the aloe *(π vera)* foliis spinosis confertis dentatis vaginantibus planis maculatis L. it has not been thought necessary to give a separate figure of it here. Besides, it appears probable from the observations of Professor Murray, that different species as well as varieties of aloe would furnish the various kinds of this drug, and that Linnæus by referring these sorts to those plants, the recent juice of which seemed respectively to correspond the nearest to them in taste, might easily be misled; for Murray upon tasting the fresh juice of many different species of aloe, sometimes found it bitter, and at other times totally devoid of bitterness.[a]

[a] See *Commentatio de succi aloës amari initiis* in *Murr. Opusc. tom. 2. p. 488.* This author found the bitterest species to be the following: 1. Aloe elongata, floribus spicatis tubuloso-triquetris subringentibus oblique dependentibus, foliis aggregatis dentatospinosis. It seems to be the variety π of the spec. plant. and is

A tract of mountains about fifty miles from the Cape of Good Hope is wholly covered with the aloes plants, which renders the planting of them there unnecessary; but in Jamaica and Barbadoes they are now carefully cultivated; to the former of these Islands, they were first brought from Bermuda, and gradually propagated themselves. They require two or three years standing before they yield their juice in perfection; to procure which, according to Dr. Browne, "The labourers go into the field with tubs and knives, and cut off the largest and most succulent leaves close to the stalk; these are immediately put into the tubs, and disposed one by the side of another in an upright position, that all the loose liquor may dribble out at the wound. When this is thought to be almost wholly discharged, the leaves are taken out one by one, passed through the hand to clear off any part of the juice that may yet adhere, or stick in the less open veins; and the liquor put in shallow flat-bottomed vessels, and dried gradually in the sun, until it acquires a proper consistence. What is obtained in this manner is generally called *socotorine aloes*, and is the clearest and most transparent, as well as the highest in esteem and value."[b] The method of procuring the common aloes he states to be nearly the same with that mentioned by Mr. Hughes,[c] and lately by Mr. Millington:[d] after a sufficient quantity of juice is drained from the leaves, to make it an object for the boiling house, the last-mentioned gentleman informs us, "three boilers, either of

probably the aloe mentioned by Hughes and Browne. A figure of it is given in the Gottingen Trans. for the year 1788.

2. Aloe spicata *Thunb.* (see *supp. plant.*) this is said to afford the best hepatic aloes. 3. Aloe linguæformis (see *syst. veg. ed.* 14.) This plant in the interior parts of the Cape, is selected by some as producing the best and purest aloes. *Thunb. de Med. African. p.* 7. But the greatest quantity of aloes exported from the Cape of Good Hope, is prepared from another species, not defined by Thunberg, though not uncommon in our botanic gardens V. *Physiogr. Sälsk. Handl. P.* 1. *p.* 112. and Sparrman *Resa til Goda Hopps-udden. p.* 742, it is probably the *A.* spicata *of Thunb.*

[b] See *Browne's Jamaica, p.* 198. [c] See his History of Barbadoes, p. 159.

[d] See *London Med. Journal, V.* 8. *p.* 422.

iron or copper, are placed to one fire, though some have but two, and the small planters only one. The boilers are filled with juice, and as it ripens or becomes more inspissated, by a constant but regular fire, it is ladled forward from boiler to boiler, and fresh juice is added to that farthest from the fire, till the juice in that nearest to the fire (by much the smallest of the three, and commonly called by the name of tatch, as in the manufactory of sugar) becomes of a proper consistency to be skipped or ladled out into gourds, or other small vessels, used for its final reception. The proper time to skip or ladle it out of the tatch, is when it is arrived at what is termed a resin height, or when it cuts freely, or in thin flakes from the edges of a small wooden slice, that is dipped from time to time into the tatch for that purpose. A little lime-water is used by some aloe boilers during the process, when the ebullition is too great." He adds, " as to the sun-dried aloes which is most approved for medicinal purposes, very little is made in Barbadoes. The process is however very simple, though extremely tedious. The raw juice is either put into bladders, left quite open at the top, and suspended in the sun, or in broad shallow trays of wood, pewter, or tin, exposed also to the sun every dry day, until all the fluid parts are exhaled, and a perfect resin formed, which is then packed up for use, or for exportation."[e]

These accounts of procuring the aloes differ considerably from that given by Dr. Wright, who says " Hepatic aloes is obtained in the following manner. The plant is pulled up by the roots and carefully cleansed from earth or other impurities. It is then sliced and cut in pieces into small hand-baskets or nets. These nets or baskets are put into large iron boilers with water, and boiled for ten minuets, when they are taken out, and fresh parcels supplied till the liquor is strong and black. At this period the liquor is thrown through a strainer into a deep vat, narrow at bottom, to cool, and to deposit its fæculent parts. Next day the clear liquor is drawn off by a cock, and again committed to the large iron

[e] Millington, l. c.

vessel. At first it is boiled briskly, but towards the end the evaporation is slow, and requires constantly stirring to prevent burning. When it becomes of the consistence of honey, it is poured into gourds or calabashes for sale. The socotorine aloes may be prepared as above."[f]

The aloe socotorina or socotorine aloes is so named, from being formerly[g] brought from the Island Socotria or Zocotria at the mouth of the Red sea: it comes wrapt in skins and is of a bright surface, and in some degree pellucid; in the lump of a yellowish red colour with a purplish cast; when reduced into powder of a golden colour. It is hard and friable in the winter, somewhat pliable in the summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell is not very unpleasant, and somewhat resembles that of myrrh. The aloe hepatica E. P. and Barbadensis L. P. the Hepatic, Barbadoes, or common aloes, is chiefly brought from Barbadoes; the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact, though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the socotorine.

Another kind of aloes obtained from the aloe guineensis caballina vulgari similis sed tota maculata,* is also kept in the shops, and called aloe caballina, or horse aloes. This is easily distinguished from both the foregoing, by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is now not unfrequently sold in its place. Sometimes it is prepared

[f] V. Dr. Wright's *account of the medicinal plants growing in Jamaica, in Lond. Med. Jour. Vol.* 8. *p.* 219.

[g] It is now said to be imported from the Cape by the Dutch East India Company.

* *Commel. Prael. bot. p.* 4.

so pure and bright as scarcely to be distinguishable by the eye, even from the socotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion. This aloe is not admitted into the Materia Medica, and is employed chiefly by farriers.

All the kinds of aloes consist of a resin united to a gummy matter, and dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous parts subside.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell: that obtained from the socotorine has scarce any preceptible taste; that of the hepatic, a slight bitterish relish; and the resin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable that the crude aloes: the extract of socotorine aloes has very little smell, and is in taste not unpleasant: that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.[h]

Aloes is neither noticed by Hippocrates nor Theophrastus, but Dioscorides mentions two kinds; and Avicenna tells us, that of the different kinds the socotorine is the best. Celsus, however, who frequently employed aloes, does not mention any peculiar sort.

Aloes is a well known purgative; a property which it possesses not only when taken internally, but also by external application.[i]

[h] See *Edinburgh New Dispensatory.*

[i] V. *Monro's Works, p.* 306. *and Mem. de la Soc. R. de Medec. à Paris, Vol.* 2. *p.* 162.

This cathartic quality of aloes does not, like most of the others of this class, reside in the resinous part of the drug but in the gum, for the pure resin has little or no purgative power. Boerhaave declares aloes to be an effectual and safe cathartic, but though we may have little to fear from its hypercathartic effects, yet in large doses it often produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge: therefore, to those who are subject to piles, or of an hemorrhagic diathesis, or even in a state of pregnancy, its exhibition has been productive of considerable mischief: but on the contrary, by those of a phlegmatic constitution or suffering by uterine obstructions, and in some cases of dyspepsy, palsy, gout, and worms, aloes may be employed as a laxative with peculiar advantage. Its purgative effects are not always in proportion to the quantity taken, and as its principal use is rather to obviate costiveness than to operate strongly, this ought to be no objection to its use. Respecting the choice of the different kinds of aloes, it may be observed that the socotorine, as already mentioned, contains more gummy matter than the hepatic, and hence is found to purge with more certainty and greater irritation; therefore is most proper where a stimulus is required, or for promoting the uterine discharge: while the hepatic is better calculated for the purpose of a common purgative; and also by containing more resin answers better for external application considered as a vulnerary.

The dose of aloes is from half a scruple to half a dram, but it is seldom given alone. Several preparations of it are directed in the pharmacopœias, as pilulæ ex aloe, pilulæ ex aloe cum myrrha, extractum colocynthidum compositum. *Pharm. Lond.* pilulæ aloeticæ, pilulæ communes, v. Rufi, pilulæ ex colocynthide cum aloe, pilulæ stomachicæ, *Pharm. Ed.* tinctura aloes, tinctura aloes composita, vinum aloes *P. L.* elixir aloes v. proprietatis, elixir aloes sive proprietatis vitriolicum, vinum aloeticum. *P. E.* the pulvis aloeticus or hiera picra, and other powders.

CONVALLARIA POLYGONATUM. COMMON SOLOMON'S SEAL.

SYNONYMA. Convallaria. *Pharm. Edinb.* Polygonatum latifolium flore majore odoro. *Bauh. Pin.* 303. Polygonatum floribus ex singularibus pediculis. *J. Bauh.* iii. *p.* 529. Polygonatum majus flore majore. *Park. Theat. p.* 696. Sweet-smelling Solomon's Seal. *Gerard. Emac.* 904. *Raii Synopsis, p.* 263. *Spec.* 2. *Raii Histor. p.* 665. *Withering. Bot. Arrang. p.* 354. *Flor. Dan. Icon.* 337.

β Polygonatum Hellebori albi folio, caule purpurascente. *Raii Synop.* 263.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 425.

Ess. Gen. Ch. Cor. sexfida. *Bacca* maculosa 3-locularis.

Sp. Ch. C. foliis alternis amplexicaulibus, caule ancipiti, pedunculis axillaribus subunifloris.

THE root is perennial, horizontal, white, fibrous, beset with knobs, and said [a] to be marked with circular depressions, resembling the impressions of a seal; hence the name Solomon's Seal. The stalk is inclined, angular, smooth, and rises about a foot in height: the leaves are oval, pointed, ribbed, smooth, above of a deep green colour, underneath glaucous, and at the base embrace the stem: the flowers are long, bell-shaped, white, or tinged with green; divided at the extremity into six short segments, and hang from the same side of the stalk upon slender peduncles: the filaments are six, tapering, short, and inserted in the corolla: the antheræ are oblong and erect: the style is filiform, longer than the stamina, and crowned with a blunt triangular stigma: the germen is round, and when ripe becomes a black berry, divided

[a] These depressions are more peculiarly characteristic of the Convallaria multiflora.

Convallaria Polygonatum.

Published by [illegible] [illegible]

into three cells, each containing a single round seed. It grows in the rocky and woody parts of England, and flowers in May and June.

The root, which is the medicinal part of Solomon's Seal, is very generally, by writers on the Materia Medica, referred to the Convallaria multiflora of Linnæus, or the Polygonatum latifolium vulgare of C. Bauhin. It is of a mucilaginous [b] quality, and has long been commonly employed as a discutient poultice to various kinds of tumours, but more particularly to bruises, accompanied with extravasation of blood in the cellular membrane:[c] it is also recommended as a cosmetic; and in Galen's time was used by women to remove pimples and freckles of the skin. Of its astringent effects, when taken internally, there can be no well grounded expectation. The berries, flowers, and leaves, are extremely acrid, and are said to be of a poisonous quality.[d]

[b] As a proof that these roots contain a considerable proportion of farinaceous matter, Bergius says, "Panem e radice recente, addita farina frumenti, annonæ caritate coxerunt rustici nostrates, qui fuscus fuit, & subglutinoso sapore." M. M. 271.

[c] "Cataplasma e radice familiare remedium est in sugillationibus, & in omni contusione, sanguinem grumosum efficaciter discutiens." Rutty M. M. 403.

[d] Vide Haller Stirp. Helv. No. 1243. Geoff. M. M.

ORD. XLVII. ENSATÆ.

(From *ensis*, a Sword.)

Plants with leaves shaped like a two-edged sword, broad and embracing the stem at the base, and gradually tapering to a point at the apex.

IRIS FLORENTINA. FLORENTINE ORRIS, or IRIS.

SYNONYMA. Iris florentina. *Pharm. Lond. & Edinb. Gerard. Emac.* p. 52. Iris alba florentina. *Bauh. Pin.* p. 31. *Park. Perad.* p. 180. Iris flore albo. *J. Bauh. Hist.* ii. 719. *Raii Hist.* p. 1180. *Spec.* 2. Iris barbata foliis ensiformibus glabris brevioribus, scapo subbifloro. *Thunb. Diss. de Iride.* n. 5. Ιρις Ἰλλυρικὴ, *Dioscor. et Græc.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis, petalis alternis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Cor. 6-partita: *Petalis* alternis reflexis. *Stigmata* petaliformia. *Lin.*

Sp. Ch. I. corollis barbatis, caule foliis altiore subbifloro, floribus sessilibus.

Iris florentina

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THE root is perennial, tuberous, ponderous, somewhat compressed, branched, fibrous, externally brown, internally of a yellowish white colour: the leaves are sword-shaped, radical, inserted in each other, pointed, shorter than the stem, and of a dull green colour: the stem is round, smooth, jointed, and about a foot in height: the flowers are large, upright, of a white colour, and often have a bluish tinge: the calyx is a spatha of two valves: the corolla divides into six segments or petals, of these, three stand erect, the other three, which are of an irregular oval shape, turn back, and at the base are painted with brown lines, and bearded with yellow hairs; the filaments are three, and crowned with long yellow antheræ; the style is short and simple; the stigma separates into three expanded segments, resembling petals, which arch over the stamina; the germen is long, of an obtusely triangular shape, and placed below the corolla; the capsule has three cavities, which contain numerous flat brown seeds.

This Iris is a native of Italy, and flowers in June: it was cultivated in England by Gerard in 1596, and is now constantly propagated by the florists; but the roots of the Orris produced in this country have neither the odour, nor the other qualities, of those of warmer climates, so that for medicinal use they are commonly imported from Leghorn.

The root, in its recent state, is extremely acrid, and when chewed excites a pungent heat in the mouth, which continues several hours: on being dried, this acrimony is almost wholly dissipated, the taste slightly bitter, and the smell agreeable, and approaching to that of violets. No essential oil has been hitherto obtained from this root, but spirituous tinctures of it contain more of its virtues than watery infusions. The fresh root is a powerful cathartic, and for this purpose its juice has been employed in the dose of a dram and upwards in dropsies. It is now chiefly used in its dried state, and ranked as a pectoral, or expectorant, and hence has a place in the Trochisci amyli of the London Pharm. We have however no evidence of its expectorant powers, and

therefore must consider it as valuable only for the pleasantness of the perfume, and the flavour which it communicates.[a]

[a] "What this might do in its recent and acrid state, I cannot determine; but in the dried state, in which we commonly have it in our shops, we are persuaded of its being a very insignificant expectorant." Cullen M. M. v. 2. p. 459.

IRIS PSEUDACORUS. YELLOW WATER FLAG.

SYNONYMA. Iris Palustris. *Pharm. Edin.* Iris palustris lutea. *Gerard. Emac.* 50. Acorus adulterinus. *Bauh. Pin.* p. 74. Acorus palustris, &c. *Park. Theat.* p. 1219. Yellow Water Flower-de-luce. *Raii Hist.* p. 1185. *Synop.* 374. Iris caule inflexo, foliis ensiformibus; petalis erectis minimis reflexis imberbibus. *Hal. Stirp. Helv.* n. 1260. Iris Pseud-Acorus. *Lightf. Fl. Scot.* p. 86. *Withering Bot. Arrang.* p. 39. *Curt. Fl. Lond.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis; petalis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Sp. Ch. I. imberbis, foliis ensiformibus, petalis alternis, stigmate minoribus. *Thunb.* l. c.

THE root is perennial, thicker than the thumb, of an irregular shape, horizontal, on the outside blackish, covered with rigid fibres, and puts forth many long whitish perpendicular slender roots; within it is spongy, and of a yellowish red colour; the leaves which grow from the root are upright, broad, sword-shaped, and at the bottom riding, or closely embracing, each other; those on the stalk are short, alternate, and sheathe the joints of the stem:

Iris Pseudacorus.

Publish'd by W. Phillips, 1 May 1810.

the stalk is upright, round, smooth, alternately inclined from joint to joint: the flowers are large, showy, of a yellow colour, and stand upon short branches, which proceed from the joints of the stem: the corolla divides into six segments or petals, of these, the three inner ones are small and erect, the three outermost are large, of a roundish oval shape, turning back, and painted near the base with reddish lines: the calyx is a sheath, or spatha, of two, three, or four valves, according to the number of the flowers: the filaments are flat and tapering; the antheræ oblong, yellowish at the edges, purplish, and bent down by the stigmata: the germen is triangular, and placed below the corolla; the style is short and slender; the stigma divides into three petalous expansions of a yellow colour, these are oblong, bent outwards, and irregularly serrated at the extremity: the capsule is triangular, and divided into three cells, which contain numerous flat seeds of a yellow colour.

This plant is common in marshes, and on the banks of rivers, and is rendered very conspicuous by its large yellow flowers, which appear in the beginning of July. It formerly had a place in the London Pharm. under the name of Gladeolus luteus. The root is without smell, but has an acrid stiptic taste, and its juice on being snuffed up the nostrils, produces a burning heat in the nose and mouth, accompanied with a copious discharge from these organs: hence it is recommended both as an errhine and sialagogue.[a] This root is such a powerful astringent, that it has been used instead of galls in the making of ink,[b] and also for the purpose of dying black;[c] and from this quality it has been successfully employed as a medicine for the cure of diarrhæas:[d] When given with this intention, the root is to be well dried; for the fresh root and

[a] Vide Armstrong on the diseases of children, p. 146. Cullen M. M. v. ii. p. 439.

[b] Phil. Trans. No. 117. p. 397.

[c] Vide Pennant's Tour in Scotland, 1772. p. 214. Lightfoot's Flor. Scot. v. 2. p, 86.

[d] Blair's Observations, &c. p. 78.

its juice are strongly cathartic, insomuch that 80 drops of the latter produced repeated evacuations, after jalap, gamboge, &c. had failed, and by continuing its use in an increased dose, it cured an inveterate dropsy.[e] Hence Bergius says, "*Virtus. recent.* hydragoga, purgans. *siccat.* adstringens." The expressed juice is likewise said to be an useful application to serpiginous eruptions and scrophulous tumours.[f]

[e] ——"By this time the strongest cathartics, such as Jalap, Gamboge, Mercury, &c. were quite ineffectual: whereupon Dr. Rutherford ordered 80 drops of the succus radicis, Iridis palustris, to be given every hour or two in a little syrup of buckthorn, which had very immediate effects, making him pass several Scots pints of water by stool that very night." Medical Essays, vol. 5. p. 94.——We may here remark, that this juice is very uncertain in its operation: that which is expressed from the old roots is the most active.

[f] Murray Ap. Med. vol. 5. p. 277. Lewis Mat. Med. 359.

Orchis mascula

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ORD. XLVIII. ORCHIDEÆ.

Plants of the Orchis kind.

ORCHIS MASCULA. MALE ORCHIS.

SYNONYMA. Satyrion. *Pharm. Edinb.* Orchis morio mas foliis maculatis. *Bauh. Pin. p.* 81. *Park. Theat. p.* 1364. *Raii Hist. p.* 1214. *Synop. p.* 376. Cynosorchis morio mas. *Gerard. Emac. p.* 208. Orchis radicibus subrotundis; petalis lateralibus reflexis; labello trifido; segmento medio longiori, bifido. *Hal. Stirp. Helv. n.* 1286. *tab.* 33. Orchis mascula. *Hudson. Flor. Ang. p.* 333. *Lightfoot Flor. Scot. p.* 515. *Flor. Dan. t.* 457. *Curt. Flor. Lond. t.* 121.

Class Gynandria. *Ord.* Diandria. *Lin. Gen. Plant.* 1009.

Ess. Gen. Ch. *Nectarium* corniforme pone florem.

Sp. Ch. O. bulbis indivisis, nectarii labio quadrilobo crenulato: cornu obtuso, petalis dorsalibus reflexis.

THE root is perennial, consisting of two roundish bulbs, from the upper part of which several small fibres are produced: the stalk is upright, round, smooth, solid, simple, purplish towards the top, and rises about a foot in height: the leaves are radical, long, pointed with a sharp prominent midrib, and commonly marked with dark coloured spots: the flowers are purplish, and terminate

the stem in a long regular spike: the bracteæ are membranous, purple, lance-shaped, and generally twisted at their points: the corolla is composed of five petals, two of which are upright, of an oval pointed shape, and their tips bent inwards: the other three are placed outwardly, and approach so as to form a galea, or helmet: the lip is large, with three lobes, of which that in the middle is the longest; they are notched, and spotted towards the base, which is white; the nectarium is lengthened out behind into a tubular part, resembling a little horn: the filaments are two, short, inserted in the germen, and furnished with oval antheræ, which are incased in the limb of the nectary: the germen is oblong and twisted: the style is short, with a compressed stigma: the capsule is oblong, and contains numerous small seeds. It is common in meadows, and flowers in April and May.

This plant has a place in the Materia Medica of the Edinburgh Pharmacopœia only on account of its roots, which abound with a glutinous slimy juice, of a sweetish taste; to the smell they are faint, and somewhat unpleasant.

This mucilaginous or gelatinous quality of the Orchis root has recommended it as a demulcent, and it has been generally employed with the same intentions and in the same complaints as the root of althæa and gum arabic, both of which we have already noticed.

Salep, which is imported here from the East, and formerly held in great estimation, is now well known to be a preparation of the root of Orchis || which was first suggested by Mr. J. Miller,† and different methods of preparing it have been since proposed and practised: of these the latest and most approved is that by Mr. Mault, of Rochdale,[a] which we shall transcribe from the words of Dr. Percival,[b] who follows Mr. Mault in recommending the

|| Orchis masculà, though the chief, is not the only species from which the Salep is prepared.

† Joseph Miller *(Botan. Offic.* 1722. *p.* 385*)* to which we may add the names of *Séba* and *Heister.* This was first confirmed by *Buxbaum (Plant. min. cogn. Cent.* 3. *p.* 5.*)* See *Murray, Ap. Med. vol.* 5. *p.* 280.

cultivation of a plant in Britain which promises to afford so useful and wholesome a food as the Salep.

Dr. Percival says, " Mr. Mault has lately favoured the public with a new manner of curing the Orchis root, and as I have seen many specimens of his Salep, at least equal if not superior to any brought from the Levant, I can recommend the following, which is his process, from my own knowledge of its success. The new root is to be washed in water, and the fine brown skin which covers it is to be separated by means of a small brush, or by dipping the root in hot water, and rubbing it with a coarse linen cloth. When a sufficient number of roots have been thus cleansed, they are to be spread on a tin plate, and placed in an oven heated to the usual degree, where they are to remain six or ten minutes, in which time they will have lost their milky whiteness, and acquired a transparency like horn, without any diminution of bulk. Being arrived at this state, they are to be removed, in order to dry and harden in the air, which will require several days to effect; or by using a very gentle heat they may be finished in a few hours."[c]

Salep, considered as an article of diet, is accounted extremely nutritious, as containing a great quantity of farinaceous matter in a small bulk, and hence it has been thought fit to constitute a part of the provisions of every ship's company to prevent a famine at sea. For it is observed by Dr. Percival, that this powder and the dried gelatinous part of flesh, or portable soup, dissolved in boiling water, form a rich thick jelly, capable of supporting life for a considerable length of time. An ounce of each of these

[a] See *Phil. Trans. vol.* 59. *p.* 2.

[b] Percival's Essays Med. & Exper. vol. ii. p. 39.

[c] The properest time for gathering the roots is when the seed is formed, and the stalk is ready to fall, because the new bulb, of which the Salep is made, is then arrived to its full maturity, and may be distinguished from the old one by a white bud rising from the top of it, which is the germ of the orchis of the succeeding year. *Percival, l. c.*

articles, with two quarts of boiling water, will be sufficient subsistence for one man a day.[d] Dr. Percival not only recommends the use of Salep as other authors have done in diarrhœa, dysentery, dysury, and calculous complaints; but he thinks "in the symtomatic fever, which arises from the absorption of pus, from ulcers in the lungs, from wounds, or from amputations, Salep used plentifully is an admirable demulcent, and well adapted to resist that dissolution of the crasis of the blood which is so evident in these cases."

The supposed aphrodisiac qualities of this root, which have been noticed ever since the time of Dioscorides, seem to be founded on the fanciful doctrine of signatures.[e]

[d] Percival l. c. See also Lind's Appendix to his Essay on the Diseases of Hot Climates.

"Salep ex orchide morione in Suecia paratum citius solvi se passum est, quam Persicum, et tam tenacem mucilaginem exhibuit octo ejus grana in aquæ fervidæ unica una h. e. radicem in 60-plo aquæ solvendo, ut per pannum linteum non perfecte transigi posset, sed affundi insuper deberet aquæ fervidæ uncia dimidia, quo auxilio mucilago ista densitate æquavit alteram ex Salep Persico uncia una aquæ elicitam: remansit vero residui ex isto Succico Salep granum $1\frac{1}{2}$ et Persico gr. i. Murray l. c. See *Vet. Acad. Handl.* 1764. *p.* 245. *sq.*

[e] Orchis, i. e. ὄρχις, Testiculus, habet radices instar testiculorum.

Calamus Rotang

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ORD. XLIX. TRIPETALOIDEÆ.

(From *tres*, three, and *petalum*, a petal) having three petals.

CALAMUS ROTANG. ROTANG CANE.

Sanguis draconis, *Pharm. Lond. & Edinb.* e. fructibus hujus arboris maxime desumitur.

SYNONYMA. Palmijuncus Draco. *Rumph. Herb. Amb. tom.* 5. *p.* 114. *tab.* 58. *f.* 1. Dsierenang. *Kæmpfer. Amœn. Exot. p.* 552.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 436.

Ess. Gen. Ch. *Cal.* 6-phyllus. *Cor.* 0. *Bacca* exarida, 1-sperma, retrorsum imbricata.

THIS tree may be considered as a scandent kind of palm: the lower part of the stem, to the extent of two or three fathoms, is strong, erect, hollow, jointed, and beset with numerous spines; afterwards it takes a horizontal direction, and overruns the neighbouring trees to the distance of fifty or even one hundred feet: the leaves are several feet long, and composed of numerous pinnæ, which are nearly a foot long, narrow, sword-shaped, and at the

edges serrated with spinous teeth: the flowers are produced in spikes, which separate into long spreading branches: the calyx is divided into six persistent leafits, three exterior and three interior; the former are very short and pointed, the latter are oblong, concave, rigid, and unite closely, so as commonly to conceal the inner parts of the flower: it has no corolla: the filaments are six, capillary, and furnished with round antheræ: the germen is roundish, placed above the insertion of the calyx, and the style is trifid, filiform, twisted in a spiral manner, and terminated by simple stigmata: the fruit is somewhat larger than that of a filbert, membranous, round, one-celled, covered with regular inverted obtuse scales, and contains a red resinous pulp, which soon becomes dry: the seed is round and fleshy. It is a native of the East Indies, where it commonly grows in woods near rivers, and has long supplied Europe with walking-canes, which have usually been imported by the Dutch.

According to Linnæus there are several varieties of the Calamus Rotang, which he has founded upon the different figures of this tree given by Rumphius; but whether these are varieties only, or distinct species, it is not for us to determine. The specimens of the Calamus in the herbariums of Sir Joseph Banks and Dr. Smith, differ considerably in their foliage; so that different species of this obscure genus will probably in future be systematically defined; our business however has only been to select for delineation that which accorded best with the descriptions of it given by Rumphius and Kæmpfer, conformably to the synonyms to which we have referred.

Several trees are known to abound with a red resinous juice, which is obtained by wounding the bark, and called dragon's blood, as the Pterocarpus Draco or Pterocarpus officinalis of Jacquin, the Dracaena Draco, the Dalbergia monetaria, and the Pterocarpus sontolinus.—Besides these, many of the Indian red woods, while growing, pour forth through the fissures of the bark a blood-coloured juice, forming a resinous concretion, to which

the name dragon's blood has been affixed.[a] This drug however is chiefly obtained from the fruit of the Calamus Rotang, and is procured at the Molucca Islands, Java, and other parts of the East Indies, according to Kæmpfer, by exposing this fruit to the steam of boiling water, which softens the external shell, and forces out the resinous fluid, which is then inclosed in certain leaves, of the reed kind, and hung in the air to dry. Another way of obtaining the Sanguis Draconis is by simply boiling the fruit in water, inspissating the strained decoction, and drying it in the same manner as the former. In Palimbania the external surface of the ripe fruit is often observed covered with the resin, which is rubbed off by shaking the fruit together in a bag; when this is done, the drug is melted by the sun's heat, and formed into globules, which are folded in leaves: this is deemed the purest kind of dragon's blood; and that which is next in goodness is procured by taking the fruit, which is found to be still distended with resin, out of the bag, and, after bruising it, exposing it to the sun, or boiling it gently in water; the drug then appears floating upon the surface, and is skimmed off and shaped into small cakes. The inferior sort of dragon's blood is that which rises from the crude fruit after being long boiled, and is usually formed into very large cakes, or masses, in which the membranous parts of the fruit, and other impurities, are intermixed. It is also brought to us adulterated, or artificially composed, in various ways. Both the small globules, and the large masses, which we have noticed, are imported here, and found to vary widely in goodness and purity.

[a] As some of the Crotons, (vide *Linn. Supp. p.* 319) and other trees noticed by Cranz, *de duabus draconis* arboribus. *ad. p.* 13. An exudation similar to the sanguis draconis produced from a tree at Botany Bay, was discovered by Sir Joseph Banks and Dr. Solander. Vide *Hawkesworth's Collection of Voyages, vol.* 3. *p.* 498. *&* 505. But the substance now known at New South Wales by the name of red gum, is perfectly soluble in water; the yellow gum of this place is however in its chemical and medicinal qualities not very different from sanguis draconis, and has been successfully employed as an astringent by Dr. Blane. See *Phillip's Voyage to New South Wales. p.* 59.

The best kind of this gummy resinous substance breaks smooth, is of a dark red colour, and when powdered changes to crimson; it readily melts, and catches flame. It is not acted upon by watery liquors, but it totally dissolves in pure spirit, and soluble likewise in expressed oils. It has no smell, but to the taste discovers some degree of warmth and pungency.

The Cinnabris and Sanguis Draconis appear to have signified the same thing with the Ancient Greeks,* who were well acquainted with the astringent power of this medicine; and in this character it has since been much employed in hæmorrhages and alvine fluxes. At present however it is rarely used internally, being superseded by more certain and effectual remedies of this numerous class; and it enters no officinal composition but that of emplastrum thuris of the London Pharmacopœia.

* Κινναβαρι, αιμα δρακοντος.

Saccharum officinarum

Published by W. Phillips, 1 June, 1810.

ORD. L. CALAMARIÆ.

ORD. LI. GRAMINA.

Grapes, grass-like plants.

SACCHARUM OFFICINARUM. COMMON SUGAR CANE.

Saccharum non purificatum, & purificatum. *Pharm. Lond.*

SYNONYMA. Arundo saccharifera. *Bauh. Pin. p.* 18. *Park. Theat. p.* 1210. Arundo saccharina. *Gerard. Emac. p.* 38. *Raii Hist. p.* 1278. *Conf. Sloane's Jamaica, tom. i. p.* 108. *t.* 66. *Rumph. Herb. Amb. tom.* 5. *p.* 186. *t.* 74. *f.* 1. *Hughes's Barbadoes, p.* 244. *t.* 23. *f.* 1. *Browne's Jamaica, p.* 129. *Cazaud in Phil. Trans. vol.* 69. *P.* 1. *t.* 3.

Class Triandria. *Ord.* Digynia. *Lin. Gen. Plant.* 73.

Ess. Gen. Ch. *Cal.* 2-valvis, lanugine involucratus. *Cor.* 2-valvis. *Hort. Kew.*

Sp. Ch. S. floribus paniculatis, foliis planis.

THE root is perennial, knotted, and fibrous: the stem is simple, or undivided, jointed, smooth, about two inches in diameter, and rises from eight to eighteen feet in height: the leaves are long, simple, sword-shaped, and embrace the stem: the flowers are small, and produced in a terminal loose panicle: the calyx is a gluma of

two valves, which are oblong, or lance-shaped, pointed, erect, concave, equal, and the base surrounded with long woolly hairs: the corolla is composed of two valves, shorter than those of the calyx, and of a fine delicate texture: the nectarium is divided into two leafits: the filaments are three, capillary, of the length of the corolla, and furnished with oblong antheræ: the germen is oblong, and supports two feathered styles, terminated by a plumose stigma: the seed is oblong, and is invested by the corolla.

The Sugar Cane is a native of Africa, and Lower Asia, as the East Indies and Arabia felix; it is also said to grow spontaneously in America; but others assert that it was unknown in these regions till Europeans possessed it. For a considerable time however it has been industriously cultivated in the American Islands situated within the tropics, and was two centuries ago introduced into the garden of that assiduous botanist Mr. Gerard.

We have before remarked on the subject of manna, that several vegetables secrete a sweet or saccharine juice, easily converted into sugar. The Arundo Bambo L. distils from its joints a fluid, which, by the heat of the sun, concretes into sugar, and is collected for use.[a] A considerable quantity of Sugar is annually obtained in America from the Acer saccharina, a species of Maple. The inhabitants of New Spain procure Sugar from the Agave americana: it is likewise obtained from the Asclepias syriaca, and Zea Mays. Nor are the inhabitants of the northern regions wholly destitute of vegetables which furnish this useful article; for at Kamschatska it is produced from the Heracleum Syphondylium and fucus saccharinus.[b]

The plant here figured affords the Sugar in common use, which is prepared from its expressed juice, boiled with the addition of quick lime, or the common vegetable alkali.[c] The boiling is

[a] See *Pison. Mant. Aromat. p.* 186. It is also procured from the Borassus flabelliformis & Cocos nucifera.

[b] Several roots and fruits likewise afford Sugar. [c] The use of this is to imbibe the superfluous acid.

repeated in smaller and smaller vessels, during which it is often necessary to scum the impurities, and employ additional alkali; when the juice acquires a due consistence, it is suffered to cool in a proper vessel, and the saccharine matter concretes into a crystalized mass. This, after being separated from the melasses, is sold under the name of brown or moist Sugar; the saccharum non purificatum, of the London Pharmacopœia.

The Sugar may be purified in conical moulds, by spreading on the upper broad surface some moist clay, which gradually transfuses its watery moisture through the mass of Sugar, and carries with it a considerable part of the remains of the treacly matter; it is then called clayed Sugar. The saccharum purificatum, or loaf Sugar, is prepared in this country from the other Sugar boiled in water, to which is added lime water, also bullocks blood, or eggs, or commonly both; these are found to clarify the Sugar, by incorporating with its oily and mucilaginous parts, and forming a scum, which is carefully taken off. After sufficient clarification it is strained through a woollen cloth, and boiled again until it becomes of a proper consistence; it is then poured into a refrigeratory, and when duly cooled, into conical moulds made of clay, and perforated at the apex, which is placed downwards: at first the aperture at the apex of the mould is stopped up, but as the Sugar concretes it is opened, in order that the syrup or melasses may drain off. By this draining of the fluid part, the cone of Sugar shrinks at the base below the edges of the mould, which, to render the loaf still whiter, is filled up with moist clay closely applied to the base of the Sugar cone: lastly, the cone is placed upon its base, taken out of the mould, wrapped in paper, and dried or baked in a close oven.

Solutions of brown or white Sugars, boiled down until they begin to grow thick, and then removed into a very hot room, shoot upon sticks placed across the vessels for that purpose into brown or white crystals of candy, (saccharum crystalinum.)

Sugar, as an article of diet, is so well known as not to require

any description of it here: it is manifestly a neutral saline substance, the acid of which Bergman first taught us to separate by means of the nitrous acid:[d] and it since appears that several other substances, both vegetable and animal, contain an acid similar to that of Sugar.[e] The other constituent parts of Sugar seem to be an oily and mucilaginous matter; and though it is not yet satisfactorily explained how a combination of these substances should produce on the organs of taste a sensation of sweetness, yet as it is known that the strong vitriolic acid becomes sweet by uniting it to spirit of wine, we may easily conceive that the sweetness of Sugar may be effected in a somewhat similar way.

From the known properties of Sugar, it has been supposed to unite the unctuous part of the food with the animal juices, and hence it has been thought to increase corpulence or fatness; others however have thought that a contrary effect would be produced by this quality of sugar, viz. by preventing the separation of the oily matter from the blood, which forms fat. Professor Murray, who has treated this subject very elaborately,[f] thinks that by the fermentation which Sugar undergoes in the stomach, and by its relaxing resolvent saponaceous qualities, as well as by the acid which it contains, it rather tends to emaciate than to fatten the body; and in this opinion he observes that he has the authority of Boerhaave, who says if this sweet be taken in large quantities it produces emaciation by dissolving too much of the animal oil. He is therefore much surprized, that Mr. John Hunter should lately recommend Sugar and honey as the best restoratives to those suffering from great debility by a long course of mercury.[g]

[d] See his *Diss. de acido sacchari, published in* 1776.

[e] See *Berthollet in Mem. de l'Acad. &c.* 1780. *p.* 120. Also *Scheele in Vet. Acad. Handl.* 1785. *p.* 23. *sq.*

[f] See *App. Med. vol.* 5.

[g] He says, " Miror ideo, quod adhuc nuper Cl. J. Hunter (Treatise on the Venereal disease, p. 354. sq.) saccharum tanquam optimum restaurans in hominibus diuturno jejunio debilitatis vel mercurii usu emaciatis proposuerit, &c.." *L. c. p.* 410.

What may be the effects of Sugar in this respect in its refined state may be difficult to determine; but in its crude state there can be no doubt of its affording a considerable share of nourishment, both as combined in various vegetable matters, and as separated by art. Those animals, which wholly feed upon it in the Sugar islands, become remarkably corpulent; and the negro children, whose diet happens sometimes for a season to be confined to melasses, are easily distinguished from others by their superior bulk;* they are however more disposed to suffer by worms, and are likewise less active and healthy.

Sugar however appears by the experiments of several writers to prove deleterious to various kinds of worms, either by immersing them in a solution of Sugar, or sprinkling it upon their bodies;[h] and twenty grains of lump Sugar forced into the stomach of a frog, produced immediate torpor and death, which followed in the course of an hour:[i] it also proved fatal to pigeons, and to the gallinæ kind, but not to sparrows; and with sheep and dogs it had no other effect than that of a cathartic.[k]

Sugar may certainly be taken into the stomach in pretty large quantities without producing any bad consequences, though proofs are not wanting of its mischievous effects, in which, by its attenuating and dissolving the fluids, and relaxing the solids, debility and disease are said to have been produced. Stark[l] for many days took from four ounces of Sugar to eight, ten, sixteen, and even twenty, with bread and water, by which nausea, flatus, ulceration in the mouth, with redness and tumefaction of the gums, oppression, purging, pain, and redness of the right nostril,

* In Asia, Elephants and other animals are fed upon Sugar. See *Abridgment of Evidence on Slave Trade.*

[h] See *Redi obs. de animalcul. vivis in corp. viv. p.* 166. *sq.*

[i] *Carminati Opusc. Therap. vol. i. p.* 113.

[k] *Carm. l. c.*

[l] Vide *Clinical & anatomical observations with experiments dietetical & statical.*

bleeding at the nose, and livid streaks over the right scapula, were produced. We are also told that a boy who was much affected by acidity of the stomach, in a short time greedily ate a large quantity of lump Sugar; soon afterwards he was taken ill, and the next morning found dead in his bed. Upon examining his body, red spots, and other marks of a dissolved state of the blood were discovered.[m] What degree of credit ought to be given to these and other cases of the like kind, we leave to the judgment of our readers: but that the liberal use of Sugar to many stomachs has greatly impaired the digestive powers, and laid a foundation for various complaints, is highly probable. At the same time we must admit, that several indulge largely in this article, if not with advantage, at least with impunity.

As a medicine, Sugar cannot be considered to possess much power. Dr. Cullen classes it with the attenuantia; and Bergius states it to be saponacea, edulcorans, relaxans, pectoralis, vulneraria, antiseptica, nutriens. In catarrhal affections both sugar and honey are frequently employed: it has also been advantageously used in calculous complaints; and from its known power in preserving animal and vegetable substances from putrefaction, it has been given with a view to its antiseptic effects. The candy, by dissolving slowly in the mouth, is well suited to relieve tickling coughs and hoarseness. The use of Sugar in various medicinal compositions is too obvious to require being particularly pointed out.

[m] *Rezia in Carminati, l. c. p.* 129.

Polypodium Filix mas

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ORD. LII. FILICES.

Ferns.

POLYPODIUM FILIX MAS. MALE POLYPODY; Or, COMMON MALE FERN.

SYNONYMA. Filix. *Pharm. Lond. & Edinb.* Filix non ramosa dentata. *Bauh. Pin. p.* 358. Filix vulgò mas dicta, sive non ramosa. *J. Bauh. Hist. vol.* iii. *p.* 737. Filix mas non ramosa pinnulis latis densis minutim dentatis. *Gerard. Emac. p.* 1129. Filix mas vulgaris. *Park. Theat. p.* 1036. *Raii Hist. p.* 143. *Synop. p.* 120. Polypodium, pinnis pinnatis, obtusis, dentatis. *Hal. Stirp. Helv. n.* 1701. *Bolton. Filices. Brit. p.* 44. Creditur esse Πτερις. *Dioscorid.* et *Theophr.*

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1179.

Ess. Gen. Ch. *Fructific.* in punctis subrotundis sparsis per discum frondis.

Sp. Ch. P. Frondibus bipinnatis: pinnis obtusis crenulatis, stipite paleaceo.

THE root is large, long, firm, and covered with thick brown scales, placed in an imbricated order, and furnished with many long black tough fibres: the general leaves are from one to four feet in length, the ribs of which when young are thickly beset with brown tough transparent scales: the figure of the whole leaf is lance-shaped, broadest in the middle, and gradually decreases to

each extremity, terminating above in an acute point; the partial, or second leaves, are from fifteen to forty pairs, remote on the lower part, growing gradually nearer upwards, and running together at the top: the lobes are from seven to fifteen pairs, which are largest at the bottom, and regularly decrease towards the top, where they unite into a point; each lobe is of an oval shape, and a little indented at its upper extremity: the seed-vessels are placed in two rows on the back of the lobes, in number from three to six, of a kidney-shape, and covered with a pellicle; they are at first white, and afterwards change to a bluish or ash-colour; when the seeds are ripe, the pellicle bursts, and after the discharge of the seeds the vessels become brown, and appear as if covered with dust. It is a native of Britain, and grows about the borders of woods near rivulets, and in stony rocky places.

The root of the male fern has lately been greatly celebrated for its effects upon the tape-worm, or Tænia lata, of Linnæus; and this vermifuge power of fern-root seems to have been known to the ancients;[a] and is since commended by different practical writers.[b] Yet notwithstanding the virtues of this root are thus recorded, its use was very generally neglected till some years ago. Madame Noufer, a surgeon's widow, in Switzerland, acquired great celebrity, by employing a secret remedy as a specific in the cure of the tape-worm. This secret was thought of such importance by some of the principal physicians in Paris,[c] who were deputed to make a complete trial of its efficacy, that it was purchased by the French king, and afterwards published by his order.[d] The method of cure has been stated as follows: After the patient has been prepared by an emollient clyster, and a supper of panada, with butter

[a] *Dioscorid.* M. M. lib. 4. cap. 186. Theophrast. Hist. Plant. lib. 9. Galen de Simp. Med. lib. 8. *Pliny.* lib. 28. cap. 9.

[b] *F. Hoffman*, and others.

[c] Lassone, Macquer, De La Motte, Jussieu, Carburi, and Cadet.

[d] Précis du Traitement contre le Tænias ou Vers solitaires, pratiqué à Morat en Suisse, examiné et apprové à Paris. Publié par ordre du Roi; à Paris, 1775.

Polypodium vulgare.

Published by W^m Phillips 1 June, 1810.

and salt, he is directed to take in the morning, while in bed, a dose of two or three drams of the powdered root of male fern. (The dose for infants is one dram.) The powder must be washed down with a draught of water, and two hours after a strong cathartic, composed of calomel and scammony, is to be given, proportioned to the strength of the patient. If this does not operate in due time, it is to be followed by a dose of purging salts, and if the worm be not expelled in a few hours, this process is to be repeated at proper intervals. Of the success of this, or a similar mode of treatment, in cases of tænia, there can be no doubt, as many proofs of it in this country afford sufficient testimony;[e] but whether the fern root or the strong cathartic is the principal agent in the destruction of the worm, may admit of a question, and the latter opinion we believe is the more generally adopted by physicians.[f] It appears, however, from some experiments made in Germany, that the tænia has in several instances been expelled by the repeated exhibition of the root, without the assistance of any purgative.[g]

[e] See Dr. Simmon's "Account of the Tænia," &c.

[f] Dr. Cullen has published this opinion. See Mat. Med. art. Filix. See also Dr. Simmon's l. c. pref. p. 7.

[g] Vide C. C. Gmelin. *Consid. gen. filicum. p.* 34. Wendt. *Nachricht vom. clin. Inst. zu Erlangen, Pens.* 5. *et* 6. *p.* 44. 46.

POLYPODIUM VULGARE. COMMON POLYPODY.

SYNONYMA. Polypodium. *Pharm. Dale.* 63. *Alston. i.* 496. *Rutty.* 405. *Lewis.* 519. *Edinb. New Dispens.* 259. *Bergius.* 844. *Murray. v.* 449. *Gerard. Emac.* 1132. *Raii. Hist.* 137. *Synop.* 117. Polypodium foliis pinnatis lanceolatis radice squamata. *Hall. Hist. n.* 1696. Polypodium vulgare. *Bauh. Pin.* 359. *Park. Theat.* 1039. *Hudson. Ang.* 387. *Withering. Bot. Arr. iii.* 55. *Ic. Curtis. Lond.* *Bolton. Fil. Brit. t.* 18.

Cryptogamia Filices. *Lin. Gen. Plant.* 1179.

Gen. Ch. *Fructif.* in punctis subrotundis, sparsis per discum frondis.

Sp. Ch. P. frondibus pinnatifidis: pinnis oblongis subserratis obtusis, radice squamata.

ROOT perennial, creeping, in an horizontal direction, somewhat thicker than a goose's quill, externally yellowish, internally greenish, covered with brown scales, and beset with small tubercles, from which issue numerous fibres. Stalks or stipites smooth, tapering, grooved on the upper side. Frondes or leaves from half a foot to a foot in length, pinnated; pinnæ oblong, slightly serrated, obtuse. Capsules placed in a row on each side of the midrib of the leaf: they are of a roundish form, and granulated appearance, furnished with footstalks, and opening horizontally into two hemispheres, which are surrounded by an elastic ring. Seeds numerous, oval or reniform, yellow.

It grows on old walls, stumps and roots of trees, and various shady places, fructifying from June till October.

" The leaves of Polypody have a weak ungrateful smell, and a nauseous sweet taste, leaving a kind of roughness and slight acrimony in the mouth. They give out their smell and taste, together with a yellow colour, both to water and rectified spirit: the spirituous tincture is sweeter than the watery; but in inspissation its sweetness is in great part destroyed, or covered by the other matter; the spirituous extract, as Cartheuser observes, being to the taste only subastringent and subacrid, with very little sweetness, while the watery extract retains the full sweetness of the polypody."[a]

The root of the Polypodium quercinum, or those that grow on the oak, has been most esteemed for medicinal use, though no just reason can be assigned for this preference. By the ancients it was

[a] *Lewis. l. c.* Gmelin tried to obtain sugar from this root, but without success. See *Dissert. Consideratio generalis filicium. p.* 38.

Asplenium Scolopendrium.

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employed as a pugative, and thought to be peculiarly useful in expelling bile and pituitous humours; therefore much used in maniacal melancholical disorders; but to act as cathartic the root must be exhibited in its recent state, and in a large dose. Another character in which it has been recommended, and for which from its sensible qualities it seems to promise more advantage, is that of a demulcent or pectoral; thus joined with liquorice its good effects have been experienced in coughs and asthmatic affections.

However it is now rarely used in this country; nor have the French authors, Poissoner and Malouin,[b] who have cited instances of its success in mania, been able to restore to it its ancient reputation in this calamitous disorder.

[b] See *Med. de L'Acad. de Scien. de Paris.* 1751.

ASPLENIUM SCOLOPENDRIUM. HARTS-TONGUE.

SYNONYMA. Scolopendrium seu Lingua cervina. *Pharm. Ed.* Lingua cervina officinarum, *Bauh. Pin.* 350. *Ger. Emac.* 1138. *Park. Theat.* 1046. *Ray. Hist.* 134. *Synop.* 116. Asplenium petiolis hirsutis, folio longe lineari lanceolata, integerrimo circa petiolum exsicco. *Hall. Hist. n.* 1695. Asplenium, Frondes lanceolatæ, &c. *Scop. Fl. Carn.* A. Scolopendrium. *Hudson. Flor. Ang.* 384. *Withering. Bot. Arr. iii.* 51. *Ic. Bolton. Fil. Brit. t.* 11. *Curt. Flor. Lond.*

Cryptogamia Filices. *Lin. Gen. Plant.* 1178.

Gen. Ch. *Fructific.* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus simplicibus cordato-lingulatis integerrimis, stitibus hirsutis.

ROOT perennial, furnished with numerous fibres, which are brown and subdividing. Stipites or stalks simple, beset with mossy hair, extending along the midrib. Leaves long, tongue-shaped, pointed, entire, smooth, often a foot in length, of a shining yellowish green colour, and waved at the margin. Fructifications placed in oblique lines on each side of the midrib of the leaf. Involucrum a membranous linear-shaped vesicle, opening longitudinally. Capsules numerous, on footstalks, globular, furnished with an elastic ring like those of Polypodium. The seeds, which are exceedingly minute, and very numerous, are thrown to a considerable distance by the vessel containing them, being violently forced open by the elastic power of the ring.

It grows on moist shady rocks, old walls, and at the mouths of wells and caverns, producing its fructifications in August and September.

Besides the names above-mentioned, this plant has also been called hemionitis and phyllitis: it is supposed to possess medicinal qualities in common with several other species of the same genus, as golden and common maiden hair, wall-rue, and common spleen-wort, which were termed the *five capillary herbs*, and formerly held in great estimation. To the taste they are slightly astringent, mucilaginous, and sweetish; and they change a solution of iron to a black colour; their smell is inconsiderable, except the scolopendrium, which, when recent, and rubbed, manifests a disagreeable odour.

They have been formerly used to strengthen the viscera, restrain hæmorrhages and alvine fluxes, expel gravel, and to open obstructions of the liver and spleen; as well as for the general purposes of demulcents and pectorals, as noticed when speaking of common maidenhair, which with the present plant are the only two of the five capillary herbs retained in the Materia Medica of the Edinburgh Pharmacopœia.

. Asplenium. Trichomanes.

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ASPLENIUM TRICHOMANES. COMMON MAIDENHAIR, Or SPLEEN-WORT.

SYNONYMA. Trichomanes. *Pharm. Edinb. Park. Theat. p.* 1051. *Raii Hist. p.* 140. *Synop. p.* 119. *Hall. Hist. Stirp. Helv. p.* 1693. Trichomanes Mas. *Ger. Emac. p.* 1146. Trichomanes sive Polytrichum officinarum, *Bauh. Pin. p.* 356. Aspl. Trichomanes. *Hudson. Flor. Ang. p.* 452. *Withering. Botan. Arr. Vol.* 3. *p.* 52. *Relhan. Flor. Cant. p.* 388. *Ic. Flor. Dan. p.* 119. *Bolton. Fil. Brit. p.* 22. *t.* 13.

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1178.

Ess. Gen. Ch. *Fructificationes* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus pinnatis: pinnis subrotundis crenatis.

THE root is perennial, consisting of numerous slender fibres, of a dark brown colour: the general leaves are numerous, pinnated, six or eight inches in length; the ribs of which are smooth, and of a shining blackish colour; the pinnæ are sessile, somewhat roundish, indented at the edges, placed oppositely, and consisting of about twenty pairs, of which the largest stands in the middle of the leaf; the others gradually decrease towards each extremity, especially the upper: the fructifications, or seed vessels, are placed on the back of the pinnæ or lobes of the leaf, and form a row of three or four on each side of the midrib: at first they are yellowish, and are covered with a thin membrane, which when at maturity bursts, and discharges the contents over the other leaves.

It is common in this country, and is usually found on old walls and rocks in moist and shaded situations.

This plant we figure on the authority of the Edinburgh Pharmacopœia.

The leaves have a mucilaginous sweetish subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast, proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in effusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our shops, both as prepared at home and imported from abroad. A little of these syrups mixed with water makes a very pleasant draught. The syrup brought from abroad has an admixture of orange flower-water.[a]

[a] *Ed. N. Dispens. p.* 209.

The other Medicinal Plants of this Order, are

Systematic Names.	Officinal.	English.
Pteris aquilina	Filix femina	Common Fern
Adiantum capillus veneris	Capillus veneris	True Maidenhair
Asplenium Ceterach	Ceterach	Common Spleenwort
Asplenium ruta muraria	Ruta muraria	Wall-rue
Equisetum arvense	Equisetum	Corn Horse-tail

Lichen islandicus

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ORD. LIII. MUSCI.

ORD. LIV. ALGÆ.

(Sea Weeds,)

According to Linnæus this Order belongs to those plants which have their root, leaves, and caudex all in one.

LICHEN ISLANDICUS. ERYNGO-LEAVED LICHEN.

SYNONYMA. Lichen islandicus. *Pharm. Edinb.* Lichen foliis oblongis laciniatis: marginibus conniventibus caliatis. *Flor. Lapp. p.* 445. *Roy. Lugdb. p.* 508. *Hall. Stirp. Helv.* 75. Lichen terrestris, foliis eryngii. *Buxb. cent.* 2. *p.* 11. *t.* 6. *f.* 1. 2. Lichenoides rigidum, eryngii folia referens. *Dill. Hist. Musc. p.* 209. *t.* 28. *f.* 111. Lichenoides islandicum. *Hoffm. Pl. Lichenos. vol.* 1. *fasc.* 2. *tab.* 9. *f.* 1. *p.* 41. *Flor. Dan.* 155. *Giscke* 50. *Mich. t.* 44. *f.* 4. Conf. *Withering. Bot. Arr. p.* 196.

Class Cryptogamia. *Ord.* Algæ. *Lin. Gen. Plant.* 1202.

Ess. Gen. Ch. *Masc. Receptaculum* subrotundum, planiusculum, nitidum.

Fem. Farina foliis adspersa.

D. Foliacei.

Sp. C. L. foliaceus adscendens laciniatus: marginibus elevatis ciliatis.

THIS Lichen is foliaceous, erect, large: the leaves are crowded, connected together, tough, membranous, two or three inches long, variously sinuated, or divided into irregular blunt lobes, turned in at the edges, and fringed with short strong bristles: the surface is smooth, shining, channelled, and of a pale green or brown colour: the fructifications or scutella are large, of a reddish brown colour, and placed on the lobes of the leaves. It is a native of Britain, particularly on the mountains of Wales and Scotland.

The medicinal qualities of the Lichen Islandicus have lately been so well established at Vienna, that this plant is now admitted into the Materia Medica of the Edinburgh Pharmacopœia. It is extremely mucilaginous, and to the taste is bitter and somewhat astringent: its bitterness, as well as the purgative quality which it manifests in its recent state, are in a great measure dissipated on drying, or may be extracted by a slight infusion in water, so that the inhabitants of Iceland convert it into a tolerably grateful and nutritive food. An ounce of this Lichen, boiled a quarter of an hour in a pint of water, yielded seven ounces of a mucilage as thick as that procured by the solution of one part of gum arabic in three of water.

The medical virtues of this Lichen were probably first learned from the Icelanders, who employ it in its fresh state as a laxative,[a] but when deprived of this quality, and properly prepared, we are told that it is an efficacious remedy in consumptions, coughs, dysenteries, and diarrhæas. Scopoli seems to have been the first who of late years called the attention of physicians to this remedy in consumptive disorders;[b] and further instances of its success are related by Herz,[c] Cramer,[d] Tromsdorff,[e] Ebeling,[f] Paulizky,[g] Stoll,[h]

[a] See Borrichius in Bartholini, *Act. Med. Hafn.* 1761. *p.* 126. Olafsen *Reise igiennem Island. tom. i. p.* 159.

[b] *Ann. hist. nat. i.* 1769. *p.* 112. *& Ann. ii. p.* 141.

[c] *Briefe an Verzte, vol.* 2. [d] [e] *Diss. de Lichene Islandico.*

[f] *Diss. de Quassia et Lichene Islandico.*

[g] *Med. Pract. Beob.* 2. *Samml.* 104.

[h] *Rat. Med. P.* 2.

and others, who bear testimony of its efficacy in most of the other complaints above mentioned. Dr. Herz says, that since he first used the Lichen in dysentery, he found it so successful that he never had occasion to employ any other remedy; it must be observed, however, that cathartics and emetics were always repeatedly administered before he had recourse to the Lichen, to which he also occasionally added opium.

Dr. Crichton informs us,[i] that during seven months residence at Vienna he had frequent opportunities of seeing the Lichen Islandicus tried in phthisis pulmonalis at the General Hospital, and confesses, "that it by no means answered the expectation he had formed of it." He adds, however, "From what I have seen, I am fully convinced in my own mind, that there are only two species of this disease where this sort of Lichen promises a cure. The two species I hint at, are the *phthisis hæmoptoica*, and the *phthisis pituitosa*, or *mucosa*. In several cases of these I have seen the patients so far get the better of their complaints as to be dismissed the hospital cured; but whether they remained long so or not I cannot take upon me to say." That this Lichen strengthens the digestive powers, and proves extremely nutritious, there can be no doubt; but the great medicinal efficacy attributed to it at Vienna will not readily be credited at London. It is commonly given in the form of a decoction; an ounce and a half of the Lichen being boiled in a quart of milk. Of this a tea-cupful is directed to be drank frequently in the course of the day. If milk disagree with the stomach, a simple decoction of the Lichen in water is to be used. Care ought to be taken that it be boiled over a slow fire, and not longer than a quarter of an hour.

[i] See *Medical Journal, vol.* 10. *p.* 233.

LICHEN CANINUS. ASH-COLOURED GROUND LIVERWORT.

SYNONYMA. Lichen cinereus terrestris. *Pharm. Dale.* 59. *Alston.* 353. *Lewis.* 386. *Ed. New Dispens.* 219. *Murray. v.* 524. *Raii. Hist.* 117. *Synop.* 76. *Hall. Hist. n.* 1988. Lichen caninus. *Hudson. Flor. Ang.* 546. *Relhan. Flor. Cant.* 434. *Withering. Bot. Arr. iii.* 203. *Ic. Blackw.* 336. *Dill. Hist. Musc. p.* 200. *t.* 27. *f.* 102. *Flor. Dan.* 767.

Cryptogamia Algæ. *Lin. Gen. Plant.* 1202.

Gen. Ch. Masc. Receptaculum subrotundum, planiusculum, nitidum.

Fem. Farina foliis adsperma.

E. Coriacei.

Sp. Ch. L. coriaceus repens lobatus obtusus planus: subtus venosus villosus, pelta marginali adscendente.

GROWING on the ground, consisting of creeping leaves, of a leather-like substance, greenish, or ash-coloured, and appearing as if covered with a farinaceous substance, about a span in length, one or two inches in breadth, widening towards their extremities, separated into lobes, which are short, blunt, single, or in strata; beneath woolly, veined, and attached by slender white fibres. Peltæ or targets round or oblong, terminal, hard, solid, ascending, of a reddish brown colour. It grows on heaths, dry pastures, and woods.

This vegetable has a weak faint smell, and a mucid sharpish taste. It was for a long time highly extolled as a medicine of singular virtue in preventing and curing that dreadful disorder which is produced by the bite of rabid animals. The pulvis antilyssus, a powder composed of equal parts of this lichen and

Lichen caninus

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black pepper,[a] was first recommended as a preservative against the rabies canina by Mr. Dampier, brother of the celebrated circumnavigator of that name; and by the authority of Sir Hans Sloane it was published in the Philosophical Transactions.[b] This powder was afterwards adopted in the London Pharmacopœia in 1721, at the desire of Dr. Mead, who appears to have had repeated experience of its good effects, and who declares that he had never known it to fail where it had been used, with the assistance of cold bathing before the hydrophobia came on. He directs the patient to be blooded to the extent of nine or ten ounces; afterwards a dram and a half of the powder is to be taken in the morning fasting in half a pint of cow's milk warm, for four mornings successively. After these four doses are taken, the patient is directed to go into the cold bath every morning for a month, and then three times a week for a fortnight longer.

On the character of Mead the pulvis antilyssus was long retained in the London Pharmacopœia; but on the revision of that book in 1788 it was deservedly expunged.

[a] This was the original composition; but the quantity of pepper rendering the medicine too hot, the powder was prepared of two parts of the lichen and one of pepper.

[b] *Vol.* 20. *p.* 49. In the *History of the Royal Society* we are told that a dog became rabid, and bit several other dogs belonging to the Duke of York; but by the timely administration of this lichen, they were all preserved from madness. Vol. 492. and vol. 3, 19.

ORD. LV. FUNGI.

(σφολλος Fungus, a mushroom)

Vegetables of the mushroom tribe.

BOLETUS IGNIARIUS. TOUCHWOOD BOLETUS, or AGARIC.

SYNONYMA. Agaricus chirurgorum. *Pharm. Edinb.* Agaricus quernus. *Pharm. gener.* Fungus in caudicibus nascens, unguis equina figura. *Bauh. Pin.* 372. Polyporus sessilis, convexo-planus, durissimus, cinereus, inferne albus. *Hall. Helv. n.* 2288. *Raii. Synop.* 22. *n.* 7. B. igniarius. *Hudson. Flor. Ang.* 625. *Withering. Bot. Arr. iii.* 425. *Lightfoot. Flor. Scot.* 1034. *Ic. Flor. Dan.* 935. *Bulliard.* 82. & 491. *Schæffer.* 137, 138. *Battarra.* 37. *f. c.*

Cryptogamia Fungi. *Lin. Gen. Plant.* 1210.

Gen. Ch. *Fungus* horizontalis: subtus porosus.

* *Parasitici, acaules.*

Sp. Ch. B. acaulis pulvinatus lævis, poris tenuissimis.

TUBES green, grey, red, or brownish. *Pores* yellowish, changing to red brown, very fine. *Pileus* shaped like a horse's hoof, smooth, blackish. *With. l. c.*

This fungus is sessile, horizontal, consisting of a very hard woody substance, shaped somewhat like a horse's hoof; on the upper side smooth, but marked with circular ridges of different colours: the under side is flat, white, or yellowish, full of very minute pores: the internal substance is fibrous, hard, tough, of a tawny brown colour. Seeds oval, contained in the tubes.

Boletus igniarius

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Tubes very slender, equal, colour of tanned leather; in old plants stratified, a fresh layer being added every year. *Pileus* very hard, admitting of a polish by rubbing; marked with concentric bands or ridges, each broad ridge indicating a year's growth, and three or four small ones that of the different seasons of the year, varying extremely in colour. *Flesh* fibrous. *Bulliard.*

It grows on the trunks of trees, and varies in size from two to seven or eight inches in diameter.

This fungus has been specifically named Igniarius, from being used in some places as tinder. For this purpose the Germans boil it in strong lye, dry it, and boil it again in a solution of saltpetre.[a]

This Agaric has been much used by surgeons as an external styptic, and that produced on the oak has been generally preferred. Its use was first borrowed from the French; and it was successively recommended by Brossard, Morand, Bouquot, Faget, Rochard, De Mey, who employed it not only to restrain the bleedings in wounds, but to prevent hæmorrhages after amputations, which it is reported to have done as effectually as the ligature. Several English surgeons have also published cases in which the Agaric was successfully used, as Sharp, Warner, Gooch, and others.

It must not be concealed, however, that several others, soon after the introduction of the use of the Agaric in this country, declared it to be an ineffectual application; and at this day, though it may be useful in certain cases, yet in hæmorrhages from the larger arteries, the ligature is the only remedy depended on both in France and England.

To prepare the Agaric for surgical purposes, the hard outer part is cut off, and the soft inner substance is divided into pieces of different sizes, and beat with a hammer to render it still softer.

[a] We are informed by Gleditch, that in Franconia they beat pieces of the inner substance of this fungus, so as to resemble soft leather, and sew them together to form garments.

IPECACUANHA. IPECACUAN.

Ipecacuanha. *Pharm. Lond. & Edinb.*

AFTER the great diligence of naturalists in exploring every quarter of the world, to extend the science of botany, it seems surprising that the plant Ipecacuanha, the roots of which have been in common use more than a century, should not have yet been botanically ascertained. It has been referred to several different genera, as that of paris, euphorbia, lonicera, viola, pyschotria, &c.; and though this last has lately been thought to be the genus to which it belongs, and consequently named P. emetica by the younger Linnæus; yet the authority on which Mutis received the information, we cannot implicitly follow; and the figure before us, though evidently the true Ipecacuanha plant, not being advanced to a state of inflorescence, leaves this matter still undetermined. For the plant here represented, we are obliged to Sir Joseph Banks; to whom it was sent (preserved in spirits) from Brazil by Governor Phillips; and though it is not in a state of perfection, we trust it will, as a curiosity, be thought a valuable addition to our plates.

Piso divides this root into two sorts, the white and the brown, or according to Geoffroy, the Peruvian and Brazilian Ipecacuanha;[a] but three sorts are evidently distinguishable in our shops, viz. ash-coloured or grey, brown, and white. The ash-coloured is brought from Peru, and "is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces full of wrinkles and deep circular fissures, down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacrid, covering the

[a] *Pison. Ind. res. Med. et Nat. p.* 231.

Spiranthes autumnalis

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tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled than the foregoing; of a brown or blackish colour without, and white within; this is brought from Brazil (and corresponds with our specimen). The white sort is woody, has no wrinkles, and no perceptible bitterness in taste. The first, the ash-coloured or grey Ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all."[b] Dr. Irving has ascertained by experiments,[c] that this root contains a gummy and resinous matter, and that the gum is in much greater proportion, and is more powerfully emetic than the resin: that the cortical part is more active than the ligneous, and that the whole root manifests an antiseptic and astringent power. He also found its emetic quality to be most effectually counteracted by means of the acetous acid, insomuch that thirty grains of the powder taken in two ounces of vinegar, produced only some loose stools.

The first account we have of Ipecacuan is that published by Piso, in 1649; but it did not come into general use till thirty years afterwards, when Helvetius,[d] under the patronage of Louis XIV. employed it at the Hotel de Dieu, and introduced this root into common practice; and experience has proved it to be the mildest and safest emetic with which we are acquainted, having this peculiar advantage, that if it does not operate by vomit, it readily passes off by the other emunctories.

It was first introduced to us with the character of an almost infallible remedy, in dysenteries and other inveterate fluxes, as diarrhœa, menorrhagia, and leucorrhœa, and also in disorders proceeding from obstructions of long standing: nor has it lost

[b] *Edin. New Dispens. p.* 211.

[c] See the Dissertation which obtained the prize medal of the Harveian Society of Edinburgh, for 1784.

[d] See *Recueil des Methodes, p.* 280.

much of its reputation by time. The use of Ipecacuan in these fluxes, is thought to depend upon its restoring perspiration; for in these cases, especially in dysentery and diarrhœa, the skin is dry and tense; and while the common diaphoretics usually pass off by stool, small doses of this root have been administered with the best effects, proving both laxative and diaphoretic.[e] In the spasmodic asthma, Dr. Akenside[f] remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as Ipecacuan. In violent paroxysms a scruple procures immediate relief. Where the complaint is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks.

This medicine has also been successfully used in hemorrhages.[g] Several cases of menorrhagia are mentioned by Dahlberg,[h] in which one third or half a grain was given every four hours till it effected a cure. These small doses are likewise found of great use in catarrhal and even consumptive cases, as well as in various states of fever. Dr. Cullen informs us,[i] that he knew a practitioner who cured intermittents by giving five grains of Ipecacuanha, or enough to excite nausea, an hour before the accession of the fit was expected; and that "Dr. Thompson, formerly of Montrose, proposed to cure agues by the employment of emetics given at the time of accession, or at the end of the cold stage: and this practice has also been successful, and may indeed be executed by tartar emetic; but in trying such practices, I have found the Ipecacuanha more manageable than the other, and generally to be more easy to the patient."

[e] Dr. Cullen attributes its good effects entirely to its purgative quality, *M. M. Vol. 2. p. 477.*

[f] *Med. Trans. vol. 1. p. 96.*

[g] See Gianella de admirabili Ipec. virtute in curandis febribus. Patav. 1754. Also Bergius (M. M. p. 103.) and others.

[h] *Vet. Acad. Handl. vol. 31. p. 316. a 1770.*

[i] l. c.

Ipecacuan, particularly in the state of powder, is now advantageously employed in almost every disease in which vomiting is indicated; and when combined with opium, under the form of pulvis sudorificus, it furnishes us with the most useful and active sweating medicine which we possess. It is also given with advantage in very small doses even when it produces no sensible operation. The full dose of Ipecacuan in substance is a scruple, though less doses will frequently produce an equal effect. The officinal preparation is vinum ipecacuanhæ.

In order that this work should contain the whole of the vegetable MATERIA MEDICA, *included in the* LONDON *and* EDINBURGH PHARMACOPŒIAS, *it has been thought necessary to add the following*

APPENDIX.

Ammoniacum (gummi resina) *Pharm. Lond. & Edinb.*

THIS concrete gummy-resinous juice is composed of little lumps, or tears, of a milky whiteness: the external parts of the mass are yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air.

We have hitherto had no information concerning the plant which produces this drug, nor of the manner in which it is obtained: judging however from the seeds and pieces of an umbelliferous plant, with which it is often intermixed, there is no doubt of its being the produce of a vegetable of this kind; and as Ammoniacum is very analogous to galbanum, the former, as well as the latter, is probably procured from a species of the Bubon. According to the ancient account of this drug, it was produced in the west of Egypt, where the famous temple of Jupiter Ammon formerly stood, now the kingdom of Barca. At present it is brought here from Turkey, and from the East Indies.

Ammoniacum has a strong and somewhat ungrateful smell, and a nauseous sweetish taste, followed by bitterness. Its effects are similar to those of galbanum, or rather of assafœtida, but it has been generally preferred to either of these for resolving obstructions of the lungs; hence it is chiefly employed in asthmas and difficulty of expectoration. In large doses it opens the bowels.

Angustura (cortex) *Pharm. Edinb.*

ANGUSTURA Bark is imported here in thin convex pieces, of about an inch and an half or less in breadth, and about six inches in length. It is not fibrous, but hard, compact, of a yellowish brown colour, and covered with a whitish uneven epidermis. Reduced to powder it has the yellow appearance of rhubarb. To the taste it manifests a bitterish and an aromatic quality, leaving a sensation of heat upon the tongue, which continues for some time. Its odour, when recent, is said to be ungrateful, but in its dried state this is not perceptible. An ounce of the bark affords, by means of alcohol, about two drams of a resinous bitter extract; and nearly three drams and a half of a gummy extract may be obtained from the like quantity, by water.

Some have contended that this drug should be called Augustine, from St. Augustin in East Florida; but it seems more properly named Angustura, which is a place in South America, whence it was brought by the Spaniards to the Island of Trinidad.

From what tree it is obtained we find no certain account. It has been supposed to be the bark of the Magnolia glauca; but, with more probability, it has been since thought to be that of the Brucea antidysenterica; (see *Bruce's Travels, &c. vol.* 5. *p.* 69. and *J. F. Miller, tab.* 25.) or Brucea ferruginea of L'Heritier and Aiton: (*Hort. Kew. iii.* 397) for the description of the bark of this tree, given by Mr. Bruce, agrees very well with the cortex angusturæ; and as far as can be judged by the bark of a living plant of this species, now growing in the Royal Garden at Kew, this opinion is still further confirmed.

During the last five years, in which the Angustura bark has been known as a medicine in this country, it has been successfully used in the characters of a febrifuge, tonic, and astringent. In intermittents it has been found equally effectual as Peruvian bark,

and generally more acceptable to the stomach; and in cases of diarrhæa, dyspepsia, scrophula, and great debility, it has been found to be an useful remedy. (See *Brande, in London Med. Journal for* 1790.)

Balsamum Peruvianum. *Pharm. Lond. & Edinb.*

THE tree which produces this balsam was not botanically ascertained till the year 1781, when a specimen of it was sent by Mutis, from Terra Firma, to the younger Linnæus, who has described it in the Supplementum plantarum under the name of *Myroxylon peruiferum.* Its synonyma are Hoitziloxitl. *Hernand. Thes. rer. Med. Nov. Hisp. p.* 51. *cum. fig.* and Cabureiba Pis. *Ind. Hist. Nat. et Med. p.* 119.

It grows in Peru, Brasil, Mexico, and Terra Firma.

Two kinds of this balsam are imported here; the common or black, and the white. The first, which is chiefly used, is about the consistence of a syrup, of a dark opake reddish brown colour, inclining to black, and of an agreeable aromatic smell, and a very hot pungent taste.

Balsam of Peru is a very warm aromatic medicine, hotter than any of the other natural balsams; hence in cold phlegmatic habits, it has been given to warm the constitution, strengthen the nervous system, and attenuate viscid humours. It has been also used by surgeons in certain wounds and ulcers.

The White Balsam of Peru, or white storax, is brought here in gourd shells, and is of a pale yellow colour, thick, and tenacious, becoming by age solid and brittle.

This balsam is less hot than the former, but of a more agreeable fragrant smell, approaching somewhat to that of storax.

Balsamum Canadense. *Pharm. Lond. & Edinb.*

THIS balsam is the resinous juice of the Pinus Balsamea, or Balm of Gilead Fir; a tree now well known in this country: which should have been figured with the other pines, but the drawing of it was at that time unfortunately mislaid.

This balsam, which is transparent, of a light amber colour, and tolerably firm consistence, is brought to this country from Canada; and hence receives the name of Canada balsam. It may be considered as one of the purest of the turpentines; and on this account it has lately been received into the Materia Medica; and from being less offensive to the stomach, promises to supersede the balsam of Copaiva.

Cassia lignea. (*cortex, flores nondum explicatæ.*) *Pharm. Edinb.*

IN the Edinburgh Pharmacopœia this is referred to the Laurus Cassia; but we have already stated the cassia to be only a variety of the Cinnamomum, and late observations tend to confirm this opinion. As a medicine it is certainly in every respect inferior to cinnamon.

Colomba (radix) *Pharm. Lond. & Edinb.*

Synonyma. Calumba. Redi, Exp. circa varias res naturales, 1685. *p.* 142. *Raijs de Mosambique* of the Portuguese.

WE have no botanical account of the vegetable which furnishes this root. It is brought from Colomba in Ceylon in knobs, or circular pieces, brown, and wrinkled on the outer surface, yellowish within, and consisting of cortical, woody, and medullary lamina. Its smell is aromatic; its taste is pungent, and nauseously bitter.

Practitioners in the East Indies first borrowed the use of this root from the natives of those countries where it is produced, and found it of great service in most disorders of the stomach and bowels, and especially in the cholera, so fatal in hot climates. It stopped the vomiting in this complaint, more speedily and effectually than any other medicine; an effect attributed to its property of correcting the putrid disposition of the bile. With this intention its use has been recommended by Dr. Percival; and it has been successfully used in this country, not only in bilious complaints, but in various cases of dyspepsia.

Cubeba. *Pharm. Lond. & Edinb.*

IT is generally admitted that this is a species of pepper, and in the Supplementum plantarum a description of the Piper Cubeba, a shrub growing in the woods of Java, is given: but we have no certain account that this is the species which furnishes the officinal cubebs; nor have we any information of the manner in which this fruit is collected.

The long footstalk attached to the Cubeba distinguishes it at first sight from the other kinds of pepper, and hence it has been called Piper caudatum. Though still retained in both the British Pharmacopœias, it is much inferior to pepper, and has justly fallen into disuse.

Elemi (resini) *Pharm. Lond.*

THE London College refers this resin to the Amyris Elemifera of Linnæus; but this celebrated naturalist, in applying the name Elemifera to Catesby's Frutex trifolius resinosus floribus tetrapetalis albis racemosis, has since acknowledged himself to have been mistaken; as appears in the Amœn. Acad. vol. 7. where he supposes the Elemi to be produced by a species of Bursera.

However, the parent plant of this resin is still unascertained.

Elemi is brought here from the Spanish West Indies; it is most esteemed when softish, somewhat transparent, of a pale whitish colour, inclining a little to green, and of a strong, though not unpleasant smell.

Its use is confined to ointments and plasters.

Gambogia (gummi resina) *Pharm. Lond. & Edinb.*

BY the industry of Kœnig, a physician who resided many years at Tranquebar, it has been lately discovered that the genuine Gamboge is the concrete juice of a tree which constitutes a new genus, under the name Stalagmitis (*Schr. Gen.* 1585). It belongs to the class Polygamia monœcia, and is fully described by Professor Murray in the Comment. Gotting. (9. p. 175.) and App. Med. Vol. 4.

The Cambogia gutta of Linnæus, according to Kœnig, also affords a yellow juice; but this, on drying, acquires a brownish hue, and is considered as a spurious kind of Gamboge.

Gamboge is brought from the East Indies, and is well known to operate powerfully both upwards and downwards. Geoffroy says, that its emetic tendency is counteracted, if given in combination with mercurius dulcis, and that it may be given with less danger from its violence, in a liquid form than in substance. In hydropic cases it is often used to quicken the operation of other purgatives.

Though the ordinary dose of this cathartic is two or three grains, yet for the expulsion of the tape worm it has been given, with an equal quantity of vegetable alkali, to the extent of fifteen grains.

Kino (resina) *Pharm. Lond. & Edinb.*
Seu gummi rubrum astringens gambiense.

THE tree, from which this resin is obtained, though not yet botanically ascertained, is known to grow on the banks of the river Gambia, in Africa. The first account of this drug is related by

Moor in his "*Travels into the interior parts of Africa,*" *Ed.* 2. *p.* 113. by which we learn, that on wounding the bark of the tree, the fluid Kino immediately issues drop by drop, and by the heat of the sun is formed into a hard mass. This, which was for some time considered as a species of sanguis draconis, was afterwards fully explained, and its medical character established, by Dr. John Fothergill. *(Med. Obs. & Inq. vol.* 1.*)*

Kino has a considerable resemblance to catechu, but redder, and is more firm, resinous, and astringent. It is now in common use, and is the most efficacious vegetable astringent, or styptic, in the Materia Medica.

Myrrha (gummi-resina) *Pharm. Lond. & Edinb.*

THOUGH Mr. Bruce *(Travels to discover the Source of the Nile, vol.* 5. 27.*)* was unable to obtain a botanical specimen of the tree which produces Myrrh, yet, from his account of it, we have no doubt in referring it to the genus mimosa; for in his opinion it very nearly resembles the *acacia vera,* which is the mimosa nilotica; and this corresponds with the description of the tree given by Dioscorides. The trees producing Myrrh grow on the eastern coast of Arabia Felix, and in that part of Abyssinia which is situated near the Red Sea, and called by Mr. Bruce Troglodyte. The same author says, "In order to have Myrrh of the first or more "perfect sort, the Savages chuse a young vigorous tree, whose "branches are without moss or any parasite plant, and above the "first large branches give the tree a deep wound with an axe. "The Myrrh which flows the first year through this wound is "Myrrh of the first growth; and never is in any great quantity. "This operation is performed some time after the rains have "ceased, that is, from April to June, and the Myrrh is produced "in July and August. The sap, once accustomed to issue through "the gash, continues so to do spontaneously at the return of every "season: but the tropical rains, which are very violent, and con-

" tinue six months, wash so much dirt, and lodge so much water " in the cut, that in the second year the tree has begun to rot " and turn foul in that part, and the Myrrh is of a second quality, " and sells in Cairo about a third cheaper than the first. The " Myrrh also produced from gashes near the roots, and in the " trunks of old trees, is of the second growth and quality, and " sometimes worse. This, however, is the good Myrrh of the " Italian shops every where in Venice. It is of a black red foul " colour, solid, and heavy, losing nothing in weight, and easily " distinguished from that of Arabia Felix. The third and worst " kind is gathered from old wounds or gashes formerly made in " old trees, or Myrrh that, passing unnoticed, has hung upon the " tree a whole year, of a black earth-like colour, heavy, with " little smell or bitterness." *(Phil. Trans. vol.* 65.)—Mr. Bruce also says, that sassa gum is fraudulently mixed with the Myrrh.

The medicinal effects of Myrrh are warm, corroborant, and antiseptic; it has also been successfully employed in phthisical cases as a pectoral; and though allied to some of the balsams, it is found to be more efficacious and less irritating to the system.

Palma (fructus oleum expressum) *Pharm. Edinb.*

PALM oil is produced chiefly from the Cocos butyracea, thus specifically named from the butter-like appearance of the oil which it yields. It is well known, however, that other palms furnish this unctuous substance, as the Elaeis Guineensis L. (see *Jacquin*); also " The palm-oil tree" of Sloane, or Palma oleosa of Hughes. To these we may add the Palma dactylifera aculeata fructu corallino major of Barrere *(de la France equinoxiale)*, and the spinous palms (Palmiers Avoira) mentioned by Aublet *(Guiane Franc. tom.* 2. *App. p.* 95.)

In the Supplementum plantarum we find not only a full description of the Cocos butyracea, on the authority of Mutis, but also an account of the method used to obtain the oil by the inhabitants of the warmer parts of America, where this palm is a native.

The fruit of this palm, which is triangular, yellow, and about the size of a plum, is bruised and thrown into water, by which the kernels are gradually dissolved without the aid of heat; the oil then rises to the surface, and on being washed two or three times is rendered fit for use.

When brought to this country, it is of the consistence of an ointment, and of an orange yellow colour, with little taste, and of a strong though not disagreeable smell. When it becomes white it is rancid, and ought to be rejected. In the countries where this oil is produced, it is used for culinary and dietetic purposes; with us it has been confined to external application, in pains, tumours, and sprains; but it seems to have no advantage over the other bland oils.

Sagapenum (gummi resina) *Pharm. Lond. & Edinb.*.

IT is conjectured that this concrete juice is the production of an umbelliferous plant, like ammoniacum, and for the same reasons. It is brought from Persia and Alexandria in large masses, externally yellowish, internally paler, and of a horny clearness. Its taste is hot and biting, its smell of the alliaceous or fœtid kind.

Its virtues are similar to those which we have ascribed to assafœtida, but weaker, and consequently it is less powerful in its effects.

Sarcocolla (gummi-resina) *Pharm. Lond.*

LINNÆUS supposes this to be produced by the Penæa mucronata, an Ethiopian shrub of the order conglomeratæ. Others however have, in this instance, doubted his authority, and the fact is still undetermined.

Sarcocolla is a concrete juice, brought from Persia and Arabia in small grains of a pale yellow, having also sometimes mixed with them a few of a deep red colour. Its taste is bitter, but followed

with some degree of sweetness. It has been chiefly used for external purposes, and, as its name imports, has been thought to conglutinate wounds and ulcers; but this opinion now no longer exists.

It is an ingredient in the pulvis è cerussa.

Radix Indica Lopeziana. *Pharm. Edinb.*

THIS root is called after Lopez, a Portuguese, who, according to Redi, found it growing in the province of Zanquebar in Africa; But Gaubius states it to be a native of Asia, and brought from Goa in Malacca to Batavia.

To what tree this root is to be referred we have not the means to determine.

The root is brought in pieces of eight or nine inches in length, and from one to two inches in thickness, though generally smaller, consisting of a whitish or straw-coloured light wood, having a brownish firm medullary substance. Its bark is soft, wrinkled, brown, somewhat spongy, and covered with a thin yellowish epidermis.

This root, which possesses no remarkably sensible qualities, is regarded in the East Indies as a medicine of extraordinary efficacy in diarrhœas; and the numerous trials of it, made by Gaubius, and others, have tended greatly to confirm its reputation.

Its dose, in powder, is from 15 to 30 grains, repeated three or four times a day.

THE END.

CATALOGUE,

In which all the Plants composing the MATERIA MEDICA, as referred to by the Colleges of London and Edinburgh, are arranged according to the System of Linnæus, and distinguished respectively by the letters L E.

CLASS I. MONANDRIA.

ORD. MONOGYNIA.

Amomum *Zingiber*	L	E
Cardamomum	L	E
Kæmpferia *rotunda*	L	E
Curcuma *longa*	L	E

II. DIANDRIA.

MONOGYNIA.

Olea *europæa*	L	E
Veronica *Beccabunga*	L	—
Gratiola *officinalis*	L	E
Rosmarinus *officinalis*	L	E
Salvia *officinalis*	L	E

TRIGYNIA.

Piper *nigrum*	L	E
longum	L	E
Cubeba	L	E

III. TRIANDRIA.

MONOGYNIA.

Valeriana *officinalis*	L	E
Tamarindus *indica*	L	E
Crocus *sativus*	L	E
Iris *florentina*	L	E
Pseudo Acorus	—	E

DIGYNIA.

Saccharum *officinarum*	L	E
Hordium *distichon*	L	—
Triticum *hybernum*	L	—
Avena *sativa*	L	—

IV. TETRANDRIA.

MONOGYNIA.

Rubia *tinctorum*	L	E
Plantago *major*	—	E
Dorstenia *Contrajerva*	L	E
Santalum *album*	—	E

V. PENTANDRIA.

MONOGYNIA.

Anchusa *tinctoria*	—	E
Menyanthes *trifoliata*	L	E
Spigelia *marilandica*	L	E
Convolvulus *Scammonia*	L	E
Jalapa	L	E
Cinchona *officinalis*	L	E
Verbascum *Thapsus*	—	E
Datura *Stramonium*	—	E
Hyoscyamus *niger*	—	E
Nicotiana *Tabacum*	L	—
Atropa *Belladonna*	—	E
Solanum *Dulcamara*	—	E

Psychotria *emetica*	L	E
Capsicum *annuum*	L	E
Chironia *Centaurium*	L	E
Rhamnus *catharticus*	L	E
Ribes *rubrum*	L	—
nigrum	L	—
Vitis *vinifera*	L	—

DIGYNIA.

Chenopodium *Vulvaria*	—	E
Ulmus *campestris*	L	E
Gentiana *lutea*	L	E
purpurea	—	E
Salsola *Kali, &c.*	L	E

UMBELLATÆ.

Eryngium *maritimum*	L	—
Daucus *Carota*	L	E
Conium *maculatum*	L	E
Ferula *Assa fœtida*	L	E
Angelica *Archangelica*	L	E
Bubon *Galbanum*	L	E
Cuminum *Cymynum*	L	E
Coriandrum *sativum*	L	E
Sium *nodiflorum*	L	—
Imperatoria *Ostruthium*	—	E
Pastinaca *Opoponax*	L	—
Anethum *graveolens*	L	E
Fœniculum	L	E
Carum *Carui*	L	E
Pimpinella *Saxifraga*	—	E
Anisum	L	E
Apium *Petroselinum*	L	E

TRIGYNIA.

Sambucus *nigra*	L	E

PENTAGYNIA.

Linum *usitatissimum*	L	E

VI. HEXANDRIA.

MONOGYNIA.

Allium *sativum*	L	E
Lilium *candidum*	—	E
Scilla *maritima*	L	E
Convallaria *Polygonatum*	—	E
Aloë *perfoliata, &c.*	L	E
Acorus *Calamus*	L	E
Calamus *Rotang, &c.*	L	E

TRIGYNIA.

Rumex *aquaticus*	—	E
Acetosa	L	E
Colchicum *autumnale*	L	E

VII. HEPTANDRIA.

MONOGYNIA.

Æsculus *Hippo-castanum*	—	E

VIII. OCTANDRIA.

MONOGYNIA.

Amyris *Elemifera*	L	—
gileadensis	—	E
Daphne *Mezereum*	L	E

TRIGYNIA.

Polygonum *Bistorta*	L	E

IX. ENNEANDRIA.

MONOGYNIA.

Laurus *Cinnamomum*	L	E
Cassia	—	E
Camphora	L	E
Nobilis	L	E
Sassafrass	L	E

TRIGYNIA.

Rheum *palmatum*	L	E

X. DECANDRIA.

MONOGYNIA.

Cassia *Senna*	L	E
Fistula	L	E
Guaiacum *officinale*	L	E
Dictamnus *albus*	L	—
Ruta *graveolens*	L	E
Toluifera *Balsamum*	L	E
Myroxylon *peruiferum*	L	E
Hæmatoxylum *Campechianum*	L	E
Quassia *amara*	L	E
Simaruba	L	E
Rhododendron *chrysanthum*	—	E
Copaifera *officinalis*	L	E
Arbutus *Uva ursi*	L	E
Styrax *officinale*	L	E
Benzoë	L	E

DIGYNIA.

Saxifraga *granulata*	—	E
Dianthus *Caryophyllus*	L	E

PENTAGYNIA.

Oxalis *Acetoselia*	L	—

XI. DODECANDRIA.

MONOGYNIA.

Asarum *europæum*	L	E
Canella *alba*	L	E

XII. ICOSANDRIA.

MONOGYNIA.

Myrtus *Pimenta*	L	E
Punica *Granatum*	L	E
Amygdalus *communis*	L	E
Prunus *spinosa*	L	—
domestica	L	—

PENTAGYNIA.

Pyrus *Cydonia*	L	E

POLYGYNIA.

Rosa *centifolia*	L	E
canina	L	—
gallica	L	E
Rubus *idæus*	L	—
Potentilla *Reptans*	L	—
Tormentilla *erecta*	L	E

XIII. POLYANDRIA.

MONOGYNIA.

Papaver *somniferum*	L	E
Rhœas	L	—
Caryophyllus *aromaticus*	L	E
Cistus *creticus*	L	—

TRIGYNIA.

Delphinium *Staphisagria*	L	—
Aconitum *Napellus*	L	E

POLYGYNIA.

Helleborus *niger*	L	E
fœtidus	L	—
Clematis *recta*	—	E
Anemone *pratensis*	—	E

XIV. DIDYNAMIA.

GYMNOSPERMIA.

Teucrium *Marum*	L	—
Scordium	L	E

Hyssopus *officinalis*	—	E
Lavendula *Spica*	L	E
Mentha *piperita*	L	E
spicata, Hud.	L	E
Pulegium	L	E
Glecoma *hederacea*	L	—
Marrubium *vulgare*	L	E
Origanum *vulgare*	L	—
Majorana	L	E
Thymus *Serpyllum*	—	E
vulgaris	—	E
Melissa *officinalis*	L	E

ANGIOSPERMIA.

Digitalis *purpurea*	L	E

XV. TETRADYNAMIA.

SILICULOSA.

Cochlearia *officinalis*	E	E
Armoracia	L	E

SILIQUOSA.

Sisymbrium *Nasturtium*	L	E
Sinapis *nigra*	L	E
Cardamine *pratensis*	L	E

XVI. MONADELPHIA.

POLYANDRIA.

Althæa *officinalis*	L	E
Malva *sylvestris*	L	E

XVII. DIADELPHIA.

HEXANDRIA.

Fumaria *officinalis*	—	E

OCTANDRIA.

Polygala *Senega*	L	E

DECANDRIA.

Pterocarpus *santalinus*	L	E
Dolichos *pruriens*	—	E
Spartium *scoparium*	L	E
Geoffroya *inermis* Wrig.	—	E
Glycyrrhiza *glabra*	L	E
Trigonella *Fœnum græcum*	L	E
Astragalus *Tragacantha*	L	E

XVIII. POLYADELPHIA.

ICOSANDRIA.

Citrus *Medica*	L	E
Aurantium	L	E

POLYANDRIA.

Hypericum *perforatum*	L	—

XIX. SYNGENESIA.

POLYGAMIA ÆQUALIS.

Cynara *Scolymus*	L	E
Leontodon *Taraxacum*	L	E
Arctium *Lappa*	L	E

POLYGAMIA SUPERFLUA.

Tancetum *vulgare*	L	E
Artemisia *Abrotanum*	L	E
Absinthium	L	E
vulgaris	—	E
maritima	L	—
Santonicum	L	E

Tussilago *Farfara*	L	E
Inula *Helenium*	L	E
Arnica *montana*	L	E
Anthemis *nobilis*	L	E
pyrethrum	L	E
Achillea *Millefolium*	—	E

POLYGAMIA FRUSTRANEA.

Centaurea *benedicta*	L	E

MONOGAMIA.

Lobelia *siphilitica*	—	E
Viola *odorata*	L	E

XX. GYNANDRIA.

DIANDRIA.

Orchis *mascula*	—	E

HEXANDRIA.

Aristolochia *Serpentaria*	L	E
rotunda, &c.	—	E

POLYANDRIA.

Arum *maculatum*	L	E

XXI. MONOECIA.

MONANDRIA.

Myristica *moschata* Thunb.	L	E

TETRANDRIA.

Urtica *dioica*	L	E
Morus *nigra*	—	E

POLYANDRIA.

Quercus *Robur*	L	E
Juglans *regia*	L	—

MONADELPHIA.

Pinus *species variæ*	L	E
Croton *Cascarilla*	L	E
Ricinus *communis*	L	E

SYNGENESIA.

Momordica *Elaterium*	L	—
Cucumis *Colocynthis*	L	E
Bryonia *alba*	—	E

XXII. DIOECIA.

DIANDRIA.

Salix *fragilis*	—	E

PENTANDRIA.

Pistacia *Terebinthus*	L	—
Lentiscus	L	E

HEXANDRIA.

Smilax *Sarsaparilla*	L	E

MONADELPHIA.

Juniperus *communis*	L	E
Lycia	L	E
Sabina	L	E
Cissampelos *Pareira*	L	—

CATALOGUE.

XXIII. POLYGAMIA.

MONOECIA.

Veratrum *Album*	L	E
Parietaria *officinalis*	L	E
Stalagmitis *Cambogioides*, Mur.	L	E
Mimosa *nilotica*	L	E
Catechu	L	E

DIOECIA.

Fraxinus *Ornus, &c.*	L	E
Panax *quinquefolium*	L	E

TRIOECIA.

Ficus *Carica*	L	E

XXIV. CRYPTOGAMIA.

FILICES.

Asplenium *Trichomanoides*	—	E
Polypodium *Filix mas*	L	E

ALGÆ.

Lichen *islandicus*	—	E

FUNGI.

Boletus *igniarius*	—	E

APPENDIX, Palmæ.

Cocos *butyracea*	—	E

The following ARRANGEMENT is extracted from the MATERIA MEDICA, published by Dr. CULLEN.

MATERIÆ MEDICÆ TABULA GENERALIS.

In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

MATERIA MEDICA constat ex

- NUTRIMENTIS quæ sunt,
  - *Cibi*, Sect. I.
  - *Potus*, S. II.
  - et quæ cum his assumuntur *Condimenta*, S. III.
- MEDICAMENTIS quæ agunt in
  - Solida.
    - Simplicia.
      - *Astringentia*, Cap. I.
      - *Tonica*, C. II.
      - *Emollientia*, C. III.
      - *Erodentia*, C. IV.
    - Viva
      - *Stimulantia*, C. V.
      - *Sedantia*.
        - *Narcotica*, C. VI.
        - *Refrigerantia*, C. VII.
      - *Antispasmodica*, C. VIII.
  - Fluida.
    - Immutantia
      - Fluiditatem.
        - *Attenuantia*, C. IX.
        - *Inspissantia*, C. X.
      - Misturam.
        - Acrimoniam corrigentia.
          - In genere
            - *Demulcentia*, C. XI.
          - In specie
            - *Antacida*, C. XII.
            - *Antalkalina*, C. XIII.
            - *Antiseptica*. C. XIV.
    - Evacuantia.
      - *Errhina*, C. XV.
      - *Sialogoga*, C. XVI.
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      - *Emetica*, C. XVIII.
      - *Cathartica*, C. XIX.
      - *Diuretica*, C. XX.
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      - *Menagoga*, C. XXII.

CATALOGUE OF THE VEGETABLE MATERIA MEDICA,

According to the preceding TABLE.

I. NUTRIMENTA.

A. FRUCTUS.

a. *Acido-dulces recentes.*

Prunum
Aurantium
Limonium
Rubus idæus
Ribes rubrum
——— nigrum
Morum
Uvæ vitis

b. *Acido-dulces siccatæ.*

Uvæ passæ majores
——— minores
Caricæ

B. HERBÆ OLERACEÆ.

Nasturtium aquaticum
Taraxacum
Petroselinum
Cinara

C. RADICES.

Daucus
Allium
Satyrion

D. SEMINA *Nuces.*

Amygdalæ
——— dulces
——— amaræ
Juglans
Olivæ

II. MEDICAMENTA.

I. ADSTRINGENTIA.

Rosa rubra
Pentaphyllum
Tormentilla
Rubia
Acetosa
Hydrolapathum
Bistorta
Filix
Trichomanes
Granatum
Quercus
Gallæ
Lignum campechense
Cydonia
Morum
Pruna sylvest.
Acacia
Catechu
Sanguis draconis
Adstringentia varia
Anchusa
Balustina
Hypericum
Millefolium
Plantago
Convallaria
Uva ursi

II. TONICA.

Gentiana
Centaureum minus
Quassia
Simaroubra
Trifolium palustre
Fumaria
Chamæmelum
Tanacetum
Absynthium
Abrotanum
Absynthium maritimum
Scordium
Serpentaria virginiana
Arnica
Cortex peruvianus

III. EMOLLIENTIA.

a. *Columniferæ.*

Althæ
Malva

b. *Farinosæ.*

Cydonium semina
Fœnum græcum
Linum

Emollientia varia

Parietaria
Verbascum
Lilium album

IV. ERODANTIA SIVE CORROSIVA.

V. STIMULANTIA.

A. *Verticillatæ.*

Lavendula
Melissa
Majorana

Origanum
Marum
Rosmarinus
Hyssopus
Hedra terrestris
Mentha
Mentha piperitis
Pulegium
Thymus
Serpyllum
Salvia

B. *Umbellatæ.*

Anethum
Angelica
Anisum
Caruon
Coriandrum
Cuminum
Fœniculum
Pimpinella

C. *Siliquosæ.*

Cochlearia
Nasturtium aquat.
Raphanus rusticanus
Sinapi

D. *Alliaceæ.*

Allium

E. *Coniferæ.*

Abies
Pinus
Juniperus

F. *Balsamica.*

Terebinthina veneta
———— communis
Balsamum canadense
———— copaiva
———— tolutanum
———— gileadense

G. *Resinosa.*

Guaiacum
Ladanum
Styrax calamita
Benzöe

II. *Aromatica*

Cinnamomum
Nux Moschata
Macis
Caryophyllus arom.
Pimento
Canella alba
Cascarilla
Piper nigrum
—— longum
—— indicum
Zingiber
Cardamomum minus
Zedoaria
Serpentaria virginiana
Ginseng
Calamus aromaticus

I. *Acria.*

Arum
Pyrethrum
Staphisagria

SEDANTIA.

VI. NARCOTICA.

a. *Rhœades.*

Papaver album
———— erraticum

b. *Umbellatæ.*

Cicuta
Cicuta aquatica

c. *Solanaccæ.*

Belladonna
Hyosciamus
Nicotiana
Solanum
Stramonium

d. *Variæ.*

Laurus
Camphora
Crocus
Vinum

VII. REFRIGERANTIA.

Plantarum Fructus
Herbæ et Radices acidi

VIII. ANTISPASMODICA.

Herbæ fœtidæ.

Artemisia
Atriplex fœtida
Cuminum
Pulegium
Ruta
Sabina

Gummi fœtidæ.

Assafœtida
Galbanum
Opoponax

Valeriana sylvestris

IX. DILUENTIA.

X. ATTENUANTIA.

Alkalina
Saccharum
Glycyrrhiza
Fructus siccatæ

XI. INSPISSANTIA.

Acida
Demulcentia farinosa
et mucilaginosa.

XII. DEMULCENTIA.

Mucilaginosa
Gummi arabicum
———— tragacantha
Farinosa
Oleosa blanda

XIII. ANTACIDA.

XIV. ANTALKALINA.

XV. ANTISEPTICA.

Plantarum partes acidæ.
Olera acescentia.

Saccharum
Plantæ siliquosæ
——— alliaceæ
Astringentia
Amara
Aromatica
Olea essentialia
Camphora
Gummi-resinæ
Crocus
Contrayerva
Valeriana sylv.
Opium
Papaver album
Vinum

XVI. Errhina.

Asarum
Helleborus albus
Iris palustris
Pyrethrum

XVII. Sialogoga.

Angelica
Caryophylli arom.
Imperatoria
Nicotiana
Piper
Pyrethrum

XVIII. Expectorantia.

Hedra terrestris
Marrubium
Pulegium
Enula campana
Iris florentina
Nicotiana
Scilla
Tussilago
Benzöe
Styrax
Balsamum canad.
——— tolutanum

XIX. Emetica.

Asarum
Ipecacuanha
Nicotiana
Scilla
Sinapi
Raphanus rust.
Amara

XX. Cathartica.

1 *Mitiora*
Ascescentia
Fructus acido-dulces
Cassia fistularis
Tamarindus

Dulcia.

Saccharum
Manna
Radices dulces
Olera blanda

Rosa damascena
Viola
Polypodium
Olea blanda
Sinapi
Amara
Balsamica

2 *Acriora*
Rhabarbarum
Seneka
Genista
Sambucus
Ricinus
Senna
Helleborus niger
Jalapium
Scammonium
Spina cervina
Nicotiana
Helleborus albus
Colocynthis
Elaterium

XXI. Diuretica.

Petroselinum
Daucus
Fœniculum
Pimpinella
Eryngium
Rubia tinctorum

Varia.

Bardana
Dulcamara
Arum
Asarum
Digitalis
Enula camp.
Genista
Nicotiana
Ruta
Sabina
Seneka
Scilla
Amara
Balsamica
Siliquosæ
Alliaceæ

XXII. Daphoretica.

Crocus
Dulcamara
Opium
Camphora
Contrayerva
Serpentaria
Salvia
Scordium
Guaiacum
Sassafras
Seneka
Acida vegetab.
Olea essentialia
Vinum
Diluentia

XXIII. Menagoga.

Aloe
Gummi fœtida
Plantæ fœtidæ
Crocus

This Arrangement, though evidently defective, yet considering the authority on which it stands, we have thought proper to publish it without any material alteration.

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In which the Officinal Names are distinguished by Roman Letters, the Systematic by Italics.

GENERAL ENGLISH INDEX.

A GENERAL INDEX TO THE PLATES,

In which the Plants are arranged according to their Natural Orders.

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II. AMENTACEÆ.

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III. COMPOSITÆ.

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